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DAVID ALAN HARRISON

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SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND
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ABSTRACT

The location factors of site and situation are examined in order to evaluate whether or not they are significant and persistent factors in the establishment and growth of Hay River, Northwest Territories, between 1800 and 1950 as the settlement changed its function and responded to improvements of transportation technology.

Hay River is situated at the mouth of the Hay River on the south shore of Great Slave Lake midway along the Mackenzie River system which links the southern Prairie Provinces to the Arctic Ocean. The Hay River Valley provides a direct overland route between Great Slave Lake and the lower Peace River Valley. Hay River lies within the Boreal Forest, the main habitat of the principal fur bearing animals. It is also adjacent to the fish resources of Great Slave Lake, and close to the mineralized contact zone between the Interior Lowlands and the Canadian Shield. The site of the settlement of Hay River lies within the delta of the Hay River which provides a natural harbor, fertile soil, and timber resources. Close proximity to the lake gives favorable microclimatic conditions but the low lying land and the northward flowing river give rise to poor drainage and periodic flooding.

During the early nineteenth century, a small fur trading

post was established in the mid Hay River Valley to take advantage of the abundant fur resources and the short overland route to Fort Vermilion and the southern canoe routes. Attempts to establish a fur post at the mouth of the Hay River in the 1860s by the Hudson's Bay Company were largely unsuccessful because of the distance from the rich fur resources.

In the early twentieth century, Hay River was the location of the Diocese of Mackenzie River residential school. The site at Hay River provided the basic food supplies and its situation midway along the water route allowed students to be transported from their homes in the lower Mackenzie, and supplies and staff to be shipped in from the south. With the improvement of transportation and the more northward focus of the activities of the Anglican Church, the situation of the residential school became a disadvantage and the school was closed in 1937.

As transportation technology improved and roads, railways, and airways spread northwards resource development expanded. Overland transportation between the Peace River District and the District of Mackenzie developed via Hay River. Hay River grew rapidly as the center for commercial fisheries on Great Slave Lake and began to expand slowly as a transportation service center for the District of Mackenzie.

Site and situation have been important factors influencing the development of Hay River. Its situation on the Mackenzie River system and north-south route has been a critical factor influencing access to resources, markets, supplies and, northern settlements. Although less important, site factors have been significant. Local natural resources aided in the successful operation of the residential school. The sheltered natural harbor and adjacent waterfront land have been important factors in the growth of the commercial fishing and transportation service functions.

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LIST OF ABBREVIATIONS

AA	Alberta Archives
Arctic	Diocese of the Arctic Collection
CMS	Church Missionary Society
DA	Diocese of Athabasca Papers
DMR	Diocese of Mackenzie River Papers
HBCA	Hudson's Bay Company Archives
MB	Made Beaver
MSCC	Missionary Society of Church of England in Canada
OMI	Missions de la Congregations de Missionaires Oblats de Marie Immaculée
PAC	Public Archives of Canada
SA	St. Andrew's Anglican Church
SPM	St. Peter's Mission Papers
Synod	Archives of General Synod of the Anglican Church of Canada

CHAPTER I

INTRODUCTION

Nature of Historical Geography

Although the discussion of the nature of geography has been long and wide ranging the essential core of the discipline is the chorological concept, the scientific study of place.[1] Pattison outlined four recurrent traditions within geography - the spatial concept, the study of area or regions, the relationship of man and his environment, and the concern for the earth sciences.[2] Geography is distinguished from the other sciences by the fact that it does not focus on any particular kind of phenomena as would anthropology, biology or physics, but is characterized by its method of study. Geography views phenomena through their spatial perspectives.[3]

This interest in the nature of places leads to the posing of questions - what are the places like, how do they differ from each other, how are they interrelated, why did they develop, and what were they like in the past - which cannot all be satisfactorily answered by the examination of current information. Smith has indicated that:

> historical studies have a contribution to make which lies very much closer to the heart of the subject, for they are frequently essential to understanding of why things are where they are. This problem of location is indeed, seen by some as

> the central theme of the subject of geography as a whole. 4

The explanation of location of some phenomena may be satisfactorily answered by an examination of present day conditions. Patterns of crop distribution may be adequately explained by an analysis of present day climate, soil, topography, and economic factors with little reference to the past. But the location of such features as villages, towns, industries, and transportation routes can often only be understood in terms of the conditions under which they were established, developed, and maintained to the present day. The first explanation is essentially functional whereas the second is genetic.

The study of historical geography provides a means of understanding the nature of places as they occur today or existed in former times. Geography is space oriented and history time oriented, but each puts forward a perspective that cuts across the systematically organized fields of study. The perspectives of history and geography are combined within the study of historical geography. Historical geography is an amalgam of time, place, and events. The historical geographer works in the present but studies the nature of places in former times. He uses the skills of the historian to examine historical evidence which gives him a secondhand view of places as they were in the past. He must use incomplete, selected, and biased materials to construct past geography more so than the geographer who is studying his contemporary world. The study of the present environment allows for more detailed examination and analysis by the current investigator, but often the task of the historical geographer is to reconstruct or synthesize a picture of the past geography from the limited data available.[5]

The approaches used in historical geography to reconstruct past geography are many but often overlapping. Smith grouped the various approaches into seven catagories three of which he considered archaic.[6] On the other hand, Newcomb categorized twelve working approaches within the framework of the traditions outlined by Pattison.[7] These include six relatively traditional methods of investigation; the Temporal Cross Section, the Vertical Theme, a combination of these two approaches, the Retrogressive Method, the Dynamic Culture History, and the Historical Regional Geography. New modes include Man's Role as an Agent of Landscape Change, Areal Differentiation of Remnants of the Historical Past, Genre de Vie, The Theoretical Model, Pragmatic Preservation of Landscape Legacies, and Past Perceptual Lenses. However, several of these approaches have much in common and the distinction between them is not clear cut. Each of these historical approaches has its usefulness. Darby cautioned the historical geographer against becoming "fixated" upon one idea and stated:

> A more relaxed view, however, would regard these different approaches not as mutually exclusive alternatives but as so many possibilities, each of which may be appropriate, or even necessary at one time or another. The measure of excellence must always lie not in methodology but in scholarly craftsmanship. 8

The concept of historical geography as the reconstruction of geographies of former times by the temporal cross section is considered to be the most "orthodox and unexceptional", but at the same time, the most "clear and distinct", and wide ranging approach.[9] This approach allows for not only the study of regional geography but also the diverse fields of urban, rural, settlement, industrial, and agricultural geography of past periods.[10] The temporal cross section approach satisfies the geographer who claims that the central theme of geography is the functional interrelatedness of phenomena and that the genetic approach is essentially historical. But at the same time, the comparative examination of a series of temporal cross sectional studies enables a genetic view of changing geographies to be made. Each cross section or stage is linked with the former and succeeding stage in a dialectic manner.

Smith suggested that comparative studies of cross sections enables conclusions to be drawn about the relationship of man and the environment, and because both physical position and environment are relatively stable, the historical method should make it possible, to some degree, to isolate some of the complex variables of any geographical situation.[11] Mitchell has written that the importance of historical geography

> . . . lies in the fact that some elements of the geographical design that develop in response to passing conditions are extremely stable in their form or long lasting in their effects, and the understanding of the present demands the study of

> geography of the period of their establishment and development. 12

Although the comparative study of series of cross sectional geographies indicates those features that have persisted and those that have changed, it does not provide the reasons or evolutionary process of that change. There is, thus, a need for the examination of the process of change between periods. This view of historical geography, the vertical theme of Newcomb, puts the geographer closer to the historian in method and concentrates on "studies in the change of a single element or of a complex of related elements in order to evaluate the part it plays."[13]

Clark, who advocated that historical geography be a study of geographical change through time, stressed an emphasis on the description of processes by which "selected elements. . . that are believed to contribute largely to regional character have changed through time."[14]

The understanding of changing geographies requires more than the examination of the elements through time. There is a need to examine these elements in terms of their importance and relationships within a place or region at specific times. Newcomb described this approach of combining cross sectional views with process change over time, the "Dagwood Sandwich". The classic example of this approach is Broek's study of the Santa Clara Valley[15] and an approach adapted by Meinig in his study of the American Southwest.[16]

It is this approach of combining cross sectional views with process change over time which is used in the present study.

The core concept of the thesis is the location of Hay River through the time period 1800-1950. The main subconcepts of location, site and situation demand that Hay River be examined in respect to its immediate surroundings and its position within the encompassing region. Thus the cross sectional view is necessary for the understanding of the location of Hay River. But at the same time the change in the significance of the site and situation are related to the functional change of Hay River and the associated changes in transportation technology. Therefore, there is a need to examine Hay River in terms of the vertical theme of process change over time.

Historical Geography in Canada

Harris, in reviewing the status of historical geography in Canada and in the preface to Canada Before Confederation: A Study in Historical Geography, stated that "the land has always dominated much of the writing about this country." However, the concern was for the influence of the environment on man rather than the "imprint of man on the surface of the earth".[17] He also expressed the view that one effect of the current "ecological crisis" was "to divert some attention from people to place" and for people to see themselves as an integral part of the environment.[18]

Harris advocated the need for further research in the following themes - the occupation of the land, regional development, urban growth and urbanization, and technological change and resource utilization. Within this last theme he expressed the opinion that

> In Canada we have a common picture of a canoe route, a railway, or a road leading from a city through a wilderness to a trading post, a logging camp, a gold rush town or a mine. Yet we have not looked closely at many of the routes, or at settlements, many of which were distinctive creations of the New World, at their wilderness ends. The elaborate transportation networks developmed by the staple trades to transport slightly processed commodities, suggests themselves as excellent case studies of the geographical implications of changes in transportation technology. 19

Historical Geography of Settlement in the Canadian Northwest

The Canadian Northwest typifies the "wilderness ends" spoken of by Harris and has been intricately related to the staple trade of furs, minerals, fish, and their transportation networks throughout its development. Several interrelated geographical studies have been made of settlements within this area since the 1940s. Wonders[20] provided an overview of the growth of settlements and the relationships to changing transportation patterns within the Canadian Northwest and particularly the Mackenzie Valley area. Robinson and Robinson[21], and Taylor[22] in the 1940s emphasized the growth of settlements and their site and layout at the time of the surveys along the Mackenzie River transport route and in the Yukon. Ridge,[23] in 1953, provided an assessment of the current site and situation factors in settlements of the Yukon and District of Mackenzie for purposes of planning sub-arctic communities. Historical studies of the development of the Mackenzie River Basin were made by Zaslow in 1948 and 1957.[24]

Regional historical geography studies have been made by Stager[25] in 1961 and by Rae[26] in 1963. Stager concentrated on the geography of the fur trade and fur trade settlements of the Mackenzie River Valley between 1750 and 1850 while Rae described the growth of individual settlements around Great Slave Lake from the eighteenth to twentieth century. Duerden[27] presented a similar study of a selected area of the Yukon Territory. These studies are based mainly on the use of secondary sources.

More recent regional surveys emphasizing economic development of settlements have been made by Habrich,[28] Radojicic[29], and Pearson[30] within the Great Slave Lake area in the 1960s and 1970s. These surveys did not stress the growth of each individual community.

Several detailed studies have been made of individual communities stressing various geographic aspects and emphasizing the historical geography to varying degrees. Bourne[31] focussed on the urban and regional economy of Yellowknife. McConnell[32] examined the importance of the location of Fort Smith within the period 1780 and 1961. Weir[33] provided a classification of the northern settlements of Fort Norman, Fort Franklin, and Norman Wells based on form, function, and historical development. Wolforth[34] and Mathewson[35] used the "ecological approach" to examine the evolution of the Mackenzie Delta community and the impact of outsiders on the community of Fort Chipewyan, Alberta. Parker, in 1967, also completed a study of Fort Chipewyan emphasizing the growth of the community within the fur trade between 1790 and 1835.[36] Within the Yukon, Koroscil[37] examined the Yukon landscape and the settlement of Whitehorse to assess the importance of economics, transportation, and political decisions on the growth of a community. Green[38] investigated the development of both Whitehorse and Yellowknife from the perspective of persistence of northern settlements.

Two geographical studies have been made of Hay River by Wallace[39] in 1966 and Zarchikoff[40] in 1975. Wallace provided a very general description of the growth of Hay River but concentrated on land use pattern and economic base in the early 1960s. Zarchikoff discussed the development of settlement patterns in Hay River in a very general survey. He made no use of Wallace's material or primary sources and did not include the early development of Hay River in the nineteenth century.

The present study builds on this previous work especially that of Ridge, Wallace, and Rae in that it concentrates on the settlement of Hay River. It focuses, like several of the studies of individual communities, on particular elements of geography but in this case, the site and situation. In the same manner that Koroscil examined the significance of the economics, transportation, and political decisions on the changing landscape of Whitehorse, this study examines the importance of site and situation in the establishment and the development of Hay River.

Site and Situation

The study of settlements (the places where man has congregated and established his home and work) and why these settlements are located where they are and how they have developed have been traditional concerns of geographers. Geography as a spatial science is concerned with the setting of settlements. This setting can be studied from three different aspects of position, location, site and situation.[41] The location is the specific position of any settlement which is unique and distinct from any other place, and is often expressed in geographic coordinates or distance from another place. Location in geography is comparable to dates of history. But just as history examines the significant relationship of events at a specific date in time so does the geographer examine the areal association of phenomena at a particular location in space. In the study of the setting of a settlement at a specific location, the geographer makes the distinction between site and situation.

Site refers to the ground upon which the settlement stands, the immediate area occupied, and the factors within that area which relate to the establishment and growth of the settlement. Important site factors are the topography, nature of the bedrock, soil, and drainage, building materials, microclimatic conditions, natural vegetation and resources, and vulnerability to floods, landslides, and other natural hazards. Factors such as land ownership and population characteristics can also be site factors influencing the development of a specific location. The site increases in size with the physical extension of the settlement, but it is essentially local and restricted in area and forms only part of the setting.

The wider setting of a settlement is the situation. The situation is the relative position of a settlement to its surrounding area and the phenomena which are important to its establishment and growth. The situation includes not only physical factors but human factors. Physical situation includes such factors as natural routes by rivers, valleys or seas, and the juxtapostion between land and sea, plain and mountain, forest and prairie, and proximity to farmland and mineral resources. Human situation factors include the characteristics and distribution of surrounding populations, the proximity of neighbouring communities and the pattern of political boundaries.

Site and situation may deal with the same phenomena but view it from a different perspective, site from the internal point of view and situation from the external point of view. A river may be considered a site factor in that it provides fresh water or defence for a settlement, but the same river can also be a situation factor in that it gives access to distant towns or important natural resources.

The scale of site and situation is also variable. At a local scale, a house might be a site and the neighbourhood the situation, and at a large scale a country could be the site and the whole world the situation.

Phenomena become site and situation factors only when they are relevant to the existence of the settlement and its development. Site and situation factors in turn may become redundant as a result of changes within a settlement. A waterfront location may not have any site significance until there is a need for shipping and docking facilities and these may not develop until the appropriate changes in transport technology take place. The location at the focal point of a series of river valleys does not become a situation factor until these natural routes are seen to be of value to mankind and appropriate transportation facilities are developed.

The location of settlements, the site, and situation need to be evaluated in light of the changes of functions and characteristics of the settlements as they are established and develop.

The first doctoral dissertation in urban geography submitted to an American university examined the relationship of site to the development of New York City.[42] Many studies of site characteristics of individual communities followed and causal relationships were assumed between site factors and the pattern of urban government. Other studies introduced man as a decision maker with respect to urban adjustments to site factors.[43] Early investigations generally adopted an environmental deterministic viewpoint such as that expressed by Griffith Taylor in his book entitled, Urban Geography, a Study of Site, Evolution, Pattern and Classification in Villages, Towns and Cities.[44] Taylor did, however, indicate that environment was usually of greater importance in the choice of site, while the human factor became significant as the settlement grew in size and importance.

Robert E. Dickinson, in 1961, indicated in the introductory chapter of his book, The West European City, that the first task of a geographical study of a settlement was to determine the characteristics of its site and situation. He stated that "no human settlement can be understood as to its place and its function on the earth's surface unless it is considered in relation to the land on which it is situated and surrounds it." He rejected Griffith Taylor's viewpoint and emphatically exclaimed "geographical determinism is as dead as the dodo". He basically accepted the ideas of Vidal de la Blache, that put man in control of his destiny and indicated then "man chooses the site as prepared by Nature and then organizes it in such a way that it meets his desires and wants".[45]

Dickinson did not restrict the study of site and situation to the initial establishment of the settlement but within the context of the ongoing development of the settlement:

> Thus having once determined precisely the physical conditions of site and situation which affected the beginnings of the town, the geographer examines how, with the passage of time, the settlement utilizes, adapts itself to, and transforms, these conditions in the process of its topographic formation and expansion. 46

Because of the often erratic rate of development of settlements, Dickinson in a similar manner to Taylor advocated that it was often convenient to treat their growth at significant phases of stability and to trace the changes from one phase to the next.[47] This method of study is essentially the same as the historical geography approach used on a regional scale by Broek, Clark and Meinig.[48]

The traditional study of situation and site, and the historical development of settlements emphasized the uniqueness of the individual community. However, since the 1960s there has been a growing concern in geography not for the uniqueness of place but for regularity and order in the character of place. In urban geography, the search for order was reflected in increasing concern for generalizations, high levels of abstraction, model building, and the development of theories. The study of site and situation and their changing significance to settlement development was relegated to a marginal outmoded role.

In recent years, there has been increasing reaction to this nomothetic approach to urban geography. Some objecttions relate to the fact that most location theories are "status quo" theories; that is, they purport to represent reality as it is at a particular point in time and they are divorced from a historical or process context. Their high level of abstraction make them difficult to verify, and hence they are of little use for explaining actual patterns in space. Also, the scientific approach has often treated people the same as objects in the natural world. Much urban geography theory sees people as rational beings motivated by economic principles. This view is quite differenct from the real world in which people live.[49]

The scientific deductive process often discards so much detail in order to reach generalizations that little insight is gained about growth of settlements.

Both Pred[50] and Vance[51] have indicated that the study of site and situation has perhaps been overly suppressed and rather too much belittled. Vance has proposed an inductive approach to the understanding of the growth of settlements. He stated:

> Cities do have a fundament, which today tends to be rather much belittled in our overfocus of social and economic institutions. San Francisco gains much of its character from its most eccentric site, as do New York City and Montreal. And who would argue that the etiolate image of Indianapolis is not in large part an outgrowth of its two dimensional site? Thus truth in siting is too often disregarded today.
>
> Situation, the other component of the classic dichotomy of city location, has fitted somewhat better into the highly statistical studies of modern cities, for implied in it is the notion of economic location, which the census data measure better than geographical location. Yet even this regard, much needs be dealt with as a local matter . . .. We need, then to study cities and their situation, so that we may deal with either persisting original conditions or their virtual destruction and replacement. This inductive study is essential, and national standardization on the present, is a camouflage of truth. 52

A renewed interest in the study of site and situation in the growth of settlements is illustrated by Armstrong and Brock's study of the nineteenth century growth of London, Ontario.[53] Shaw's study of the growth of towns on the southern Russian frontier in the seventeenth century,[54] and Muller's study of the selective growth of North American towns.[55]

Purpose of the Study

Mitchell has indicated that some geographical elements are very stable or long lasting in their effects and the understanding of the present requires the study of past establishment and development.[56]

Site and situation are elements of the nature of all settlements but are not necessarily stable or long lasting. They may decrease in importance as the settlement increases in size; but when settlements remain small these elements may persist in importance throughout the development of the settlement.

Many small settlements of northern Canada were established almost two hundred years ago. Their development has been related to the sequential change of functions, from hunting and gathering, to fur trade, missionary activities and finally to service activities and wider resource extraction. Where and why a settlement was established and to what degree it changed in character appear to be related to the characteristics of the site and situation of the settlement and how these were perceived and utilized by those individuals, groups, and institutions involved in the sequent occupation of northern Canada.

The purpose of this dissertation is to test this thesis by examining the significance of site and situation characteristics as factors influencing the establishment and development of one northern settlement - Hay River, Northwest

Territories, between 1800-1950. The significance of the site and situation characteristics will be studied in relationship to the changing function of Hay River and the progress of transportation technology.

Hay River, like many small settlements within the Mackenzie River System, lies within the Interior Lowlands and the Boreal Forest, and is located on the extensive water routes formed by the Mackenzie River and its tributaries. Unlike many other present day settlements it has a long history of development. Hay River has gone through several functional stages from an early trading post, to a missionary educational center and finally a service center for commercial fishing and a transportation center. These differing functions will provide a wide base on which to assess the importance of site and situation. Although some of the other northern communities have had many of these functions those at Hay River occurred at relatively distinct and separate stages which helps to simplify the examination of the significance of site and situation. Because of its relatively long history, Hay River has been associated with a wide variety of transportation technology from dog-sleigh and canoe to modern truck and aircraft. Thus, site and situation can be better assessed in terms of these changes in the context of Hay River than at another community with a shorter history and fewer transport changes. Data for the time period 1800-1950, both primary and secondary sources, are more readily available for Hay River than many other northern settlements. Extensive documentation is found in the archives of the Hudson's Bay Company, records of the Church Missionary Society and the Dioceses of the Mackenzie River, Athabasca and the Arctic, and files of the Federal Government departments responsible for Indian Affairs and the development of northern Canada.

Time Scale and Framework for the Study

The present study limits itself essentially to the period 1800 to 1950. The first known direct accounts of the Hay River area were written in 1800 and indicate the beginning of attempts to build some form of settlement in the area.[57] In that year, Chipewyan Indians hunting and trapping in the Hay River Valley asked the North West Company to establish a fur post in the lucrative trapping area above the rapids. In the same year, J. Thomson described the mouth of the Hay River and the difficulty encountered in gaining access to its safe harbor while on his northern journey to the Mackenzie River.[58]

By 1950, the settlement in the Hay River area had passed through sequential changes of occupance from nomadic hunting, fur trade, missionary and educational activities to an expanding service center for the Great Slave Lake commercial fisheries and for other northern settlements. Since that date, the function of Hay River has not changed but rather has been strengthened by changes in transportation technology. The studies of Wallace and Zarchikoff concentrate on the period since 1950 and provide much detail for that period of time. However, the importance of site and situation can be better evaluated in the period 1800 to 1950 as the settlement of Hay River changed its function in the various stages of development.

The development of Hay River during this period may be divided into four main stages. During the first stage, between 1806-1821, Hay River was situated in rich fur country on a natural north-south corridor. The North West Company built a fur post on the middle section of the Hay River in 1806 utilizing the natural route formed by the river valley. The Hudson's Bay Company attempted to build a rival post in the same area between 1816 and 1821.

In the second stage, 1868-1880, Hay River was relocated at the mouth of the Hay River on the shore of Great Slave Lake as part of a reorganization of the Great Slave posts and in order to control the north-south corridor and its fur resources. The Hudson's Bay Company established a post at the mouth of the river to offset the competition of the free traders who they felt would use the north-south corridor as a short cut into the Mackenzie River District.

In the third stage between 1895 and the 1930s, Hay River was the educational center for the Diocese of Mackenzie River of the Anglican Church. St. Peter's Mission and Residential School, although not centrally located in the Diocese, became the main educational center because of the need to be self sufficient as possible but, at the same time, be in relatively easy contact with southern Canada. The missionary activities gave permanence to the settlement of Hay River and other functions were attracted to the same location.

During the fourth stage, 1939 to 1950, Hay River developed into a service center for commercial fisheries on Great Slave Lake, northern settlements, and mining areas. The construction of the first tractor train route through Hay River in 1939 and the subsequent completion of the Mackenzie Highway in 1948 led to all year round access to the south. This enabled Hay River to service the commercial fisheries on Great Slave Lake and slowly begin to establish itself as the major transportation center in the western part of the Northwest Territories.

At each stage, a broad cross sectional study of Hay River, the situation and site factors enabling Hay River to carry out its functions will be discussed taking into consideration the types of transportation available at the time. This will allow the assessment of the importance of site and situation in the development of the settlement and the evaluation of the persistence of these elements over time.

Each of these stages will be introduced and linked together by sections or chapters which will examine as vertical themes the process of development of the fur trade, missionary activities, and transportation services to place Hay River in its changing regional perspective.

The second chapter provides a general introduction to the natural setting of the Hay River area into which man places himself and becomes an active participant evaluating, modifying, and becoming an integral part of the nature of the area.

This study makes use of primary source materials. Previous geographical studies of Hay River and the Mackenzie River Valley have made little use of such documents, and therefore, the description of early development of northern settlements has been more superficial. This study will help increase the awareness of the long history of northern settlement and dispel the view that northern frontier settlement is very recent. Studies of this type have been requested by northern people and will be useful within the general educational system.

Footnotes

[1] A short review of the nature of geography is found in Norman J. Graves, "Geography in the Perspective of Time," in Geography in Education (London:Heineman Educational Books, 1975), pp. 7-40.

[2] William D. Pattison, "The Four Traditions of Geography," Journal of Geography 63 (May 1964): 211-16. See also J.L. Robinson "A New Look at the Four Traditions of Geography," Journal of Geography 75 (Dec 1976): 520-530.

[3] Harris argued that geographers are concerned with spatial relations more than other sciences because of the subjects chosen for study rather than on any logical claim. All sciences are limited by space and time, and the structure of matter. Cole Harris, "Theory and Synthesis in Historical Geography," Canadian Geographer 15, 3 (1971): 158-60.

[4] C.T. Smith, "Historical Geography: Current Trends and Prospects, Chapter Seven in Frontiers in Geographical Teaching, ed. Richard J. Chorley and Peter Haggett (London: Metheun and Co., 1965), p. 118.

[5] The subjectivity of historical geography caused by the separation of the geographer from the time of the observed information, and the partial nature of that information is discussed by Moodie and Lehr, and Ernst and Merrens. D.W. Moodie and John C. Lehr, "Facts and Theory in Historical Geography," The Professional Geographer 18 (May 1976): 132-35; Joseph A. Ernst and H. Roy Merrens, "Praxis and Theory in the Writing of American Historical Geography," Journal of Historical Geography 4,3 (1978): 277-90. Harris considered historical geography to be a study of the totality of the

of the phenomena at a place, a synthesis understood by the historical geographer being steeped in the events and landscape of the particular place and time. (Cole Harris, 1971).

[6] C.T. Smith, 1965, pp. 120-34.

[7] R.M. Newcomb, "Twelve Working Approaches to Historical Geography," *Yearbook of the Association of Pacific Coast Geographers*, 31 (1969): 27-51.

[8] H.C. Darby, "Some Reflections on Historical Geography," *Historical Geographer* 9, 1-2 (1979): 9-13.

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[11] C.T. Smith, 1965, p. 129.

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[13] C.T. Smith, 1965, p. 133.

[14] A.H. Clark, "Geographical Change as a Theme for Economic History," *Journal of Economic History* 20 (1960): 607-17, see also A.H. Clark, "Historical Geography," Chapter 3 in *American Geography:Inventory and Prospect*, ed. P.E. James and C.F. Jones (Syracuse,1954). Examples of the vertical theme are H.C. Darby, *The Draining of the Fens* (Cambridge: University Press,1940), A.H. Clark, *Three Centuries and the Island: An Historical Geography of Settlement and Agriculture in Prince Edward Island* (Toronto:University of Toronto Press, 1959).

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[19] Harris, 1967, p. 239.

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CHAPTER II

NATURAL FEATURES OF HAY RIVER AND THE SURROUNDING AREA: SITE AND SITUATION FACTORS

Located at the mouth of the Hay River, on the south shore of Great Slave Lake in the Northwest Territories, the present site of the town of Hay River has been occupied intermittently by nonnatives for approximately one hundred eighty years. For a short period of time at the beginning of the nineteenth century, the settlement of Hay River was most likely located further south near the present day community of Meander River in northern Alberta.

Physical Factors

Physiography

One the the two main features of the location of Hay River is its situation within the Hay River drainage basin which provides routes to other settlements and resources (Fig. 1). The Hay River and its tributaries form a fan-shaped river basin. The northern portion of the basin forms a restricted corridor leading to and from the Great Slave Lake. The southern portion broadens out with natural routes leading west along the Hay River to the Liard and Fort Nelson River Valleys, south along the Chinchaga River towards the present day towns of Grimshaw and Peace River, and southeast along the Meander

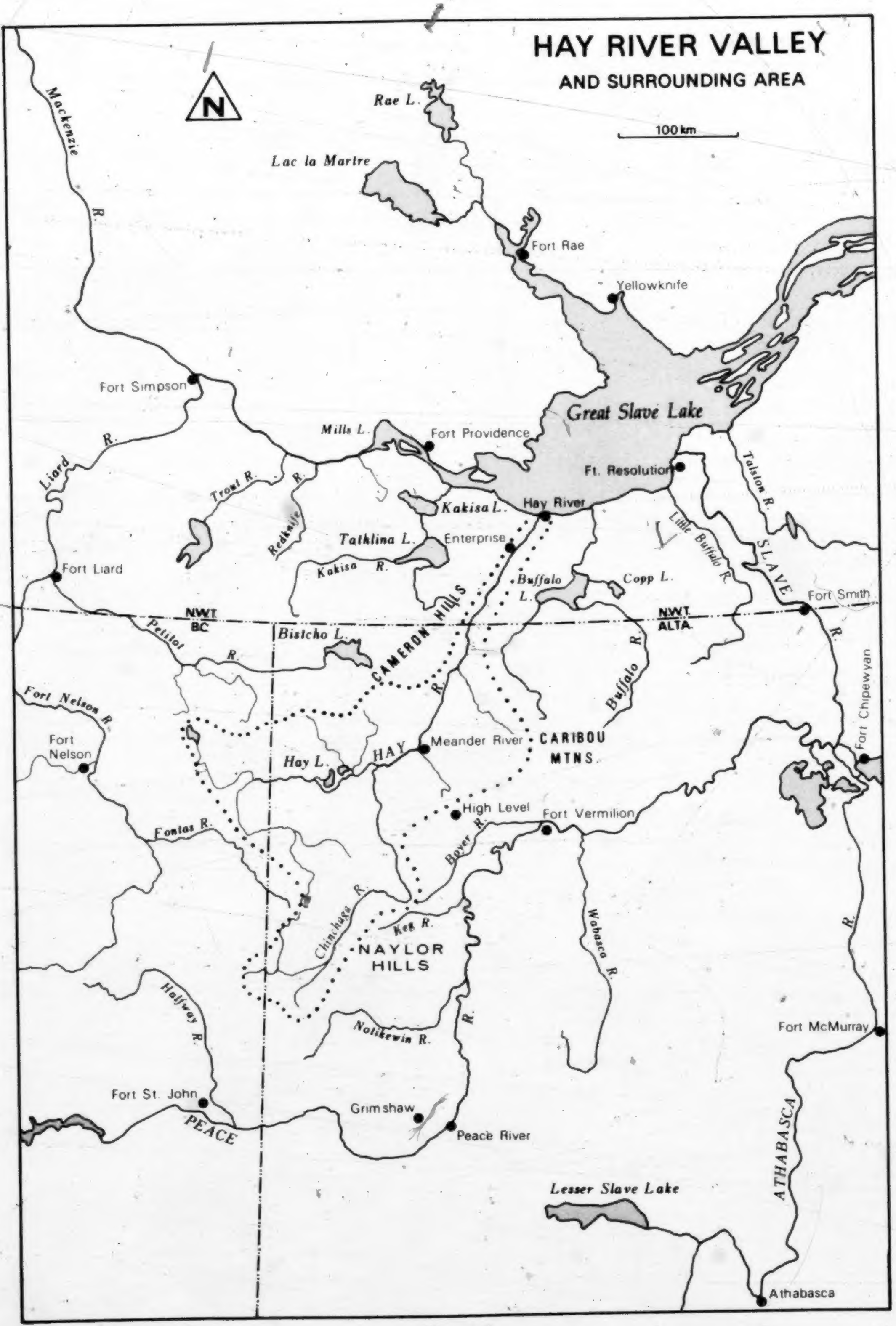

HAY RIVER VALLEY
AND SURROUNDING AREA
N
100 km
Rae L.
Lac la Martre
Fort Rae
Yellowknife
Great Slave Lake
Mackenzie R.
Fort Simpson
Mills L.
Fort Providence
Ft. Resolution
Liard R.
Trout R.
R.
Redknife
Kakisa L.
Hay River
Tathlina L.
Enterprise
Kakisa R.
Fort Liard
CAMERON HILLS
Buffalo L.
Copp L.
Little Buffalo R.
Taltson R.
SLAVE R.
Fort Smith
NWT
BC
NWT
ALTA.
Petitot R.
Bistcho L.
Buffalo R.
Fort Nelson R.
Fort Nelson
R.
HAY
Meander River
CARIBOU MTNS.
Hay L.
Fort Chipewyan
High Level
Fort Vermilion
Fontas R.
Boyer R.
Chinchaga R.
Keg R.
NAYLOR HILLS
Wabasca R.
R.
Halfway R.
Notikewin R.
R.
Fort McMurray
Fort St. John
PEACE
Grimshaw
Peace River
ATHABASCA
Lesser Slave Lake
Athabasca

Figure 1

River towards High Level, and Fort Vermilion on the Peace River.

In the northern part of the basin downstream from the confluence with the Meander River, the Hay River flows in a northeast direction bounded on the west by the Cameron Hills and on the east by the Caribou Mountains (Fig. 2). These two erosional plateaus, approximately 100 km (60 mi) apart, rise to over 900 m (2700 ft) and are formed of horizontal sandstones and shales of Cretaceous age. Their steep flanks and rough terrain limit direct access to the north. Thus, the Hay River Valley forms an easier route to Great Slave Lake and the Mackenzie River Valley. The usefulness of this route, however, is limited by the nature of the river itself and the terrain in the valley. The river is less than 100 m (300 ft) wide, follows a winding course, and is very shallow in the fall. Numerous streams flowing from the adjacent plateaus into the Hay River form small valleys which impede overland travel along the Hay River Valley.

Forty five kilometers (30 mi) south of Great Slave Lake, a low limestone escarpment (50 m, 150 ft) facing north crosses the Hay River creating rapids, waterfalls, and a deeply incised river valley downstream. Two falls, Alexandra Falls (35 m, 106 ft) and Louise Falls (15 m, 46 ft) mark two distinctive limestone units within the Palaeozoic sediments which form the escarpment.[1] Small rock ledges within the river bed, a few kilometers above the falls form Grumbler Rapids. Below Louise Falls, the river has cut a narrow gorge about 75m

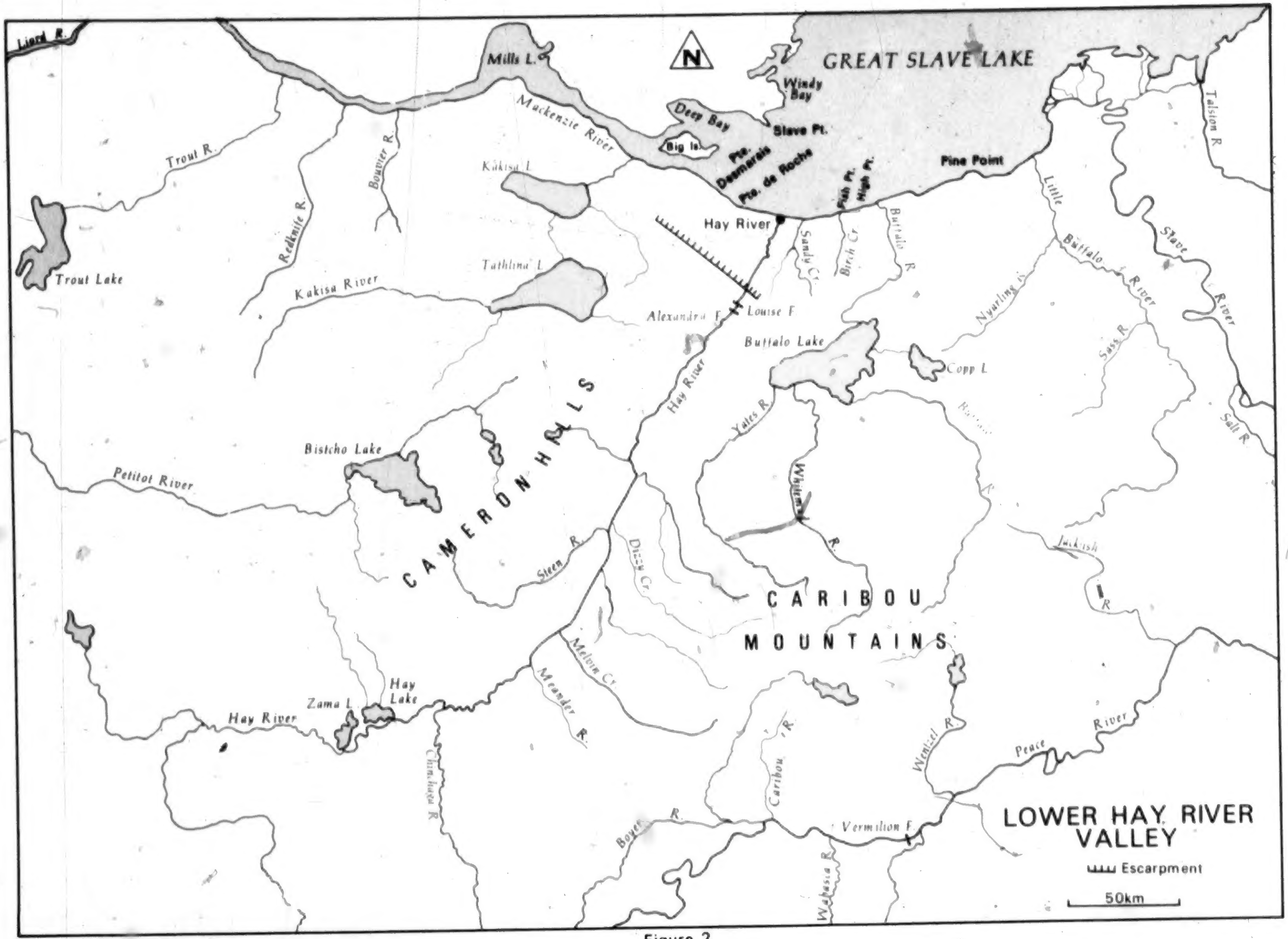

Liard R.
Mills L.
N
GREAT SLAVE LAKE
Windy Bay
Deep Bay
Slave Pt.
Big Is.
Pte. Desmarais
Pte. de Roche
Fish Pt.
High Pt.
Pine Point
Talston R.
Trout R.
Bouvier R.
Mackenzie River
Kakisa L.
Redknife R.
Hay River
Sandy Cr.
Birch Cr.
Buffalo R.
Little Buffalo River
Slave River
Trout Lake
Tathlina L.
Kakisa River
Alexandra F.
Louise F.
Buffalo Lake
Nyarling R.
Sass R.
Copp L.
Salt R.
Hay River
Yates R.
Bistcho Lake
Petitot River
CAMERON HILLS
Whitemud R.
Steen R.
Dizzy Cr.
Jackfish R.
CARIBOU MOUNTAINS
Melvin Cr.
Meander R.
Hay Lake
Zama L.
Hay River
Chinchaga R.
Caribou R.
Wentzel R.
Peace River
Boyer R.
Vermilion F.
Wabasca R.
LOWER HAY RIVER VALLEY
Escarpment
50km

Figure 2

(250 ft) deep which extends 10 km (6 mi) before passing through the edge of the escarpment. Both the falls and gorge severely handicap river transport even by small vessels such as canoes. Although they impede transportation, the high falls have a potential for hydroelectric power development.

The escarpment runs in a northwest direction from the Hay River and the small community of Enterprise. Its crest provides a relatively high dry route leading towards the head of the Mackenzie River and Mills Lake. Part of the route of the present day Mackenzie Highway from Enterprise to Fort Simpson follows the edge of the escarpment.

North of the escarpment, the Hay River follows a meandering course for approximately 45 km (30 mi) before discharging into Great Slave Lake through a series of deltaic channels.

Within the Northwest Territories, north of Caribou Mountains and Cameron Hills, the land on either side of the Hay River forms part of the Great Slave Plain.[2] The plain is underlain by Palaeozoic sediments and covered with surficial glacial and lacustrine deposits; the latter are associated with former Glacial Lake McConnell.[3] The plain lies between 330 m (1000 ft) and 170 m (510 ft) and has little relief except for beach ridges, low morainic hills, and the limestone escarpment. This low poorly drained plain is crossed by a few small rivers and creeks and is occupied by three large lakes. Southeast of Hay River, Buffalo Lake[4] is impounded by a series of low morainic hills north of the Caribou Mountains and is drained by the swift flowing Buffalo River. The only other significant river is the Kakisa River which flows from Tathlina and Kakisa Lakes lying to the southwest of Hay River.

The plain has limited usefulness as an east-west route because of its poorly drained terrain. This contrasts with the advantage of the great waterway of Great Slave Lake itself which provides a natural link between the Slave River to the east and the Mackenzie River to the west. Hay River is, therefore, not only situated on the natural route along the Hay River Valley to the south but on the much more extensive Mackenzie River system.

This situation within the Mackenzie River system, one of the most extensive of Canada's waterways, linking southern Canada with the Arctic Ocean is the second important feature of the location of Hay River. The introduction, expansion, modification and change of transport technology on this waterway have influenced the development of Hay River.

Hay River lies on the south shore of Great Slave Lake midway between the Slave River Delta and the head of the Mackenzie River, a distance of approximately 240 km (150 mi). The south shore of the lake is shallow with many sand bars. Few river mouths and headlands exist to provide shelter in time of storms.[5] The mouth of the Hay River is the only significant natural harbor. The shallow nature of the western part of the lake helps to create rough water conditions; sandbars, and shallow water impede most vessels reaching a safe anchorage. Once the shallow entrance of the Hay River is passed through, the sheltered river mouth in the lee of Hay River Point provides a safe refuge.[6]

The vast Great Slave Lake covering 27,000 km² (10,500 sq. mi) straddles the contact zone between the sedimentary rocks of the Great Slave Lake Plain and the Canadian Shield to the northeast. The rich mineral wealth in this zone occurs within only a few hundred kilometers northeast of Hay River (Fig. 3).[7] Hay River was, therefore, in an advantageous position to play a role in the development of these resources.

The present town of Hay River is located in the delta at the mouth of the Hay River which formed at the margin of the slowly retreating Glacial Lake McConnell.

The delta deposits form the basis of rich loam soils suitable for agriculture,[8] but the continual deposition of alluvium at the mouths of the river channels and the lateral movement of material along the lake shore impede access to and from Great Slave Lake and necessitate periodic dredging.[9]

The fine grained deltaic silty clays and silty clay loams combined with the cold continental climate give rise to problems of permafrost and ground ice. A mean annual temperature of -3.8°C places Hay River within the zone of discontinuous permafrost.[10] Pockets of permafrost are found in silty clays close to the river bank. Away from the river bank, in low areas covered by organic materials, permafrost is more widespread.[11] The presence of permafrost has caused difficulties in construction of major modern structures such

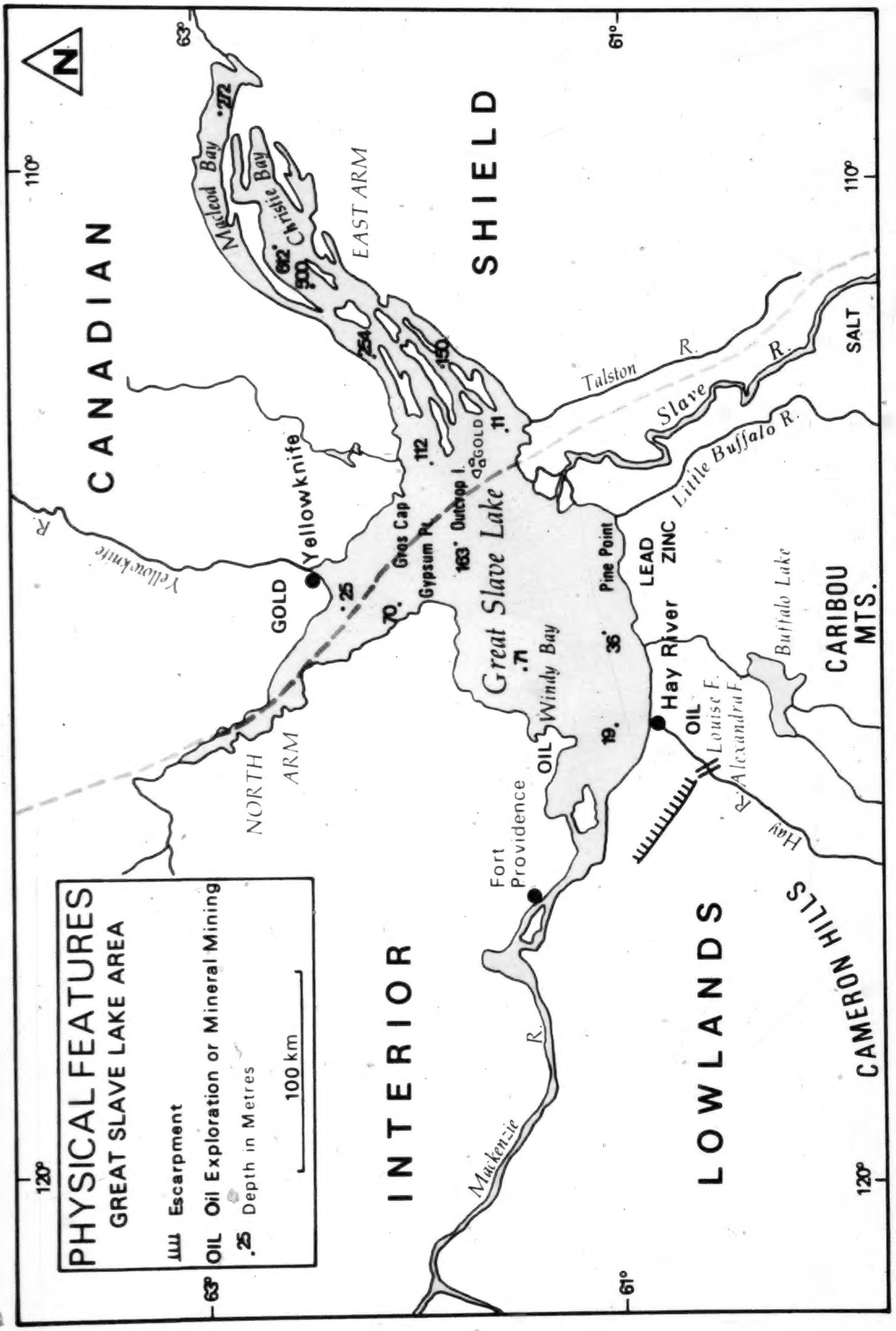

PHYSICAL FEATURES
GREAT SLAVE LAKE AREA
Escarpment
OIL Oil Exploration or Mineral Mining
.25 Depth in Metres
100 km
N
63°
61°
120°
110°
CANADIAN
SHIELD
INTERIOR
LOWLANDS
CAMERON HILLS
CARIBOU MTS.
Great Slave Lake
NORTH ARM
EAST ARM
Yellowknife
Yellowknife R.
GOLD
Gros Cap
Gypsum Pt.
Outcrop I.
Pine Point
LEAD
ZINC
Hay River
OIL
Windy Bay
Fort Providence
Mackenzie R.
Hay R.
Louise F.
Alexandra F.
Buffalo Lake
Little Buffalo R.
Slave R.
Talston R.
SALT
Macleod Bay
Christie Bay
272
612
300
254
150
112
11
163
70
25
71
36
19

Figure 3

as runways, highways, schools, churches, and repair shops.

The Hay River divides into two channels, the East and West Channel, approximately 5 km (3 mi) from Great Slave Lake (Fig. 4). The East Channel is the main channel and takes most of annual flow of water. The West Channel, which is narrower, takes little of the average daily flow but acts as an important overflow for spring floodwater and ice-floes.

The East Channel which forms a natural harbor is 300 m (1000 ft) across its widest point but only 140 m (460 ft) wide at its mouth. Here, a sand spit on the east side blocks part of the entrance to the channel. The wooded Hay River Point protects the channel from rough water of Great Slave Lake. The East Channel reaches depths of 3-5 m (10-15 ft) but is blocked by shoals on entering the lake for a distance of 1 km (1000 yds). The water over these shoals is often less than 1 m (39 in) deep so that a permanent channel to deeper water has been dredged since 1950 and kept at a miniumum depth of 2.4 m (8 ft). A small harbor lies at the mouth of the West Channel of the Hay River but, because of shallow water and sandbars and lack of dredging it is only accessible to shallow draft vessels.

The main East Channel has a series of small side channels each less than 100 m (330 ft) wide. These channels formerly carried large volumes of spring flood water and the entrances of the three southern side branches were partially blocked by flood debris. Since 1946, road construction and property development have greatly modified these channels. A series

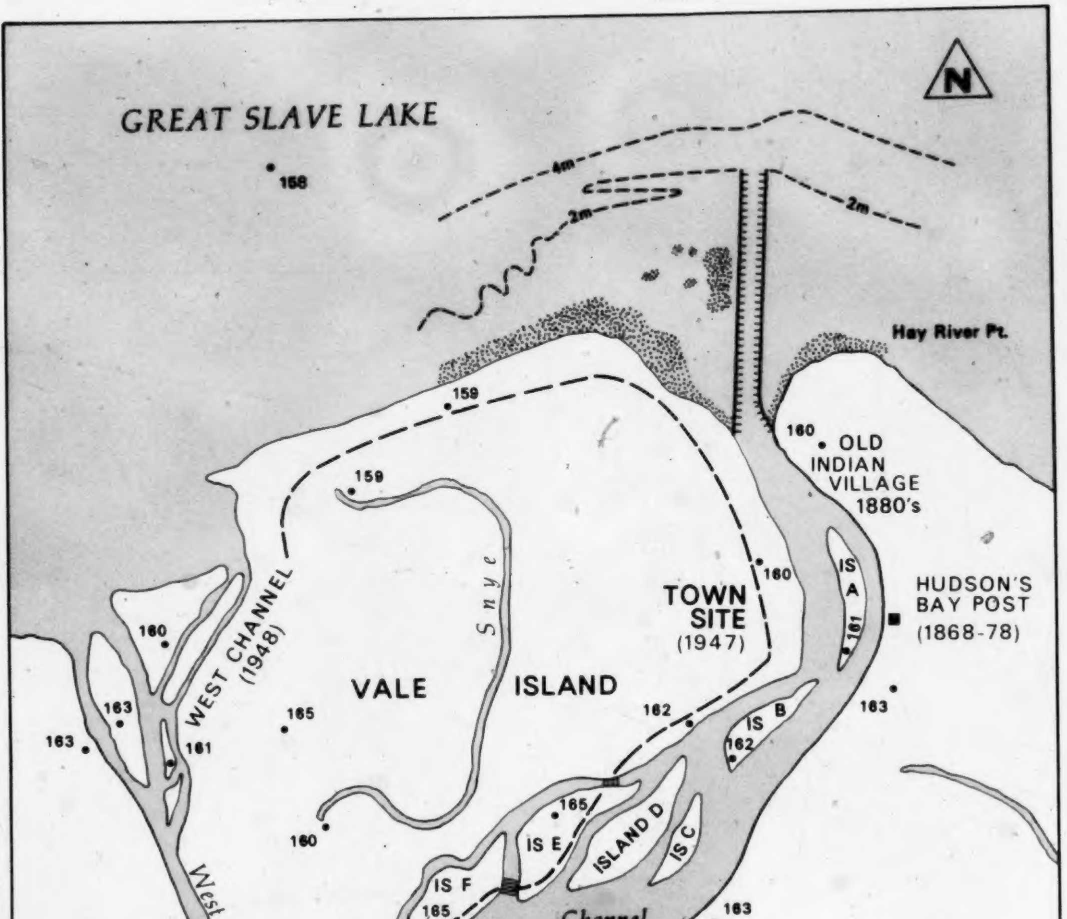

GREAT SLAVE LAKE
156
4m
2m
2m
Hay River Pt.
159
159
160
OLD INDIAN VILLAGE 1880's
IS A
161
HUDSON'S BAY POST (1868-78)
160
TOWN SITE (1947)
Snye
WEST CHANNEL (1948)
160
VALE ISLAND
163
165
163
161
162
IS B
162
163
165
IS E
ISLAND D
IS C
160
IS F
165
East Channel
163
NEW INDIAN VILLAGE (1965)
West Channel
166
165
167
160
168
NEW TOWN (1964)
170
HAY RIVER SITE
Dredged Channel
-2m- Water Depth
•160 Elevation in Metres
(1948) Date of Settlement
Sand
Dykes
Road
1000m

Figure 4

of six arcuate islands lie between the side channels and the main river. The islands, less than 1 km (5/8 mi) long and 420 m (1390 ft) wide, rise only 5 m (17 ft) above river level (level as of August 1973). They have provided pasture, timber, protected anchorage, and docking facilities.

The West Channel is only 50 m (150 ft) wide and is shallow where it branches away from the main river. This channel subdivides into three smaller branches before entering the lake. The eastern branch is the widest but is interrupted by several bars. The islands between these branches rise only 2-5 m (6-15 ft) above river level.

Vale Island forms a triangular island 4.8 km (3 mi) long and 3.6 km (2.2 mi) wide between the East and West Channel. The island is low, wet, and crossed by two long sinuous abandoned river channels. It is highest at the southern end where it reaches 8 m(26 ft) above river level. Much of the northern part of Vale Island lies only 1-2 m(3-7 ft) above the level of Great Slave Lake. A low cliff and a few spots of high ground 4 m (13 ft) above river level occur opposite Island B. Formerly, the northwest corner of Vale Island along the east bank of the West Channel had a low cliff (2-3 m, 6-10 ft) but this has been modified by changes in channel flow. The west bank of the West Channel and the east bank of the East Channel which comprise the outer edges of the delta have short steep cliffs (3-8 m, 10-25 ft). Flood waters rarely top these banks except near the mouth of the river where the cliffs are lowest. These outer banks are slightly higher and better drained than the adjacent wet lowland and are covered with close stands of spruce and poplar.

Climate

Climatic factors have wide ranging influence not only on the vegetation and wildlife of the area; but also on the success of trapping, fishing, agriculture, mining and transportation activities.

Hay River has a boreal climate characterized by long cold dry winters and short warm moist summers (Table I).[12] The daily mean temperature for January is -25.5°C and for July, 15.6°C.[13] The extreme maximum temperature is 35.6°C and the extreme minimum, -52.2°C.[14] The mean total precipitation is 339.9 mm of which 183.1 mm is rainfall. Most of the rain falls as short convectional showers during the growing season, June to September.[15]

Snow falls on only 67 days amounting to a yearly total of 165.1 cm. Blowing snow is recorded on an average of 556 hourly occurrences per year[16] and this causes drifting of snow that hinders road and rail transportation especially over open ground or ice. Heavy accumulations of snow slow down the rate of ice formation which delays the construction of winter roads and ice bridges across lakes and rivers as well as access to winter fishing grounds.

In springtime, little of the accumulated snowfall replenishes the soil moisture because of rapid run-off over the frozen ground. The small amount of soil moisture, limited summer rainfall plus the high evaporation rates and the re-

Table I

CLIMATIC PARAMETERS OF HAY RIVER AND OTHER MACKENZIE RIVER BASIN SETTLEMENTS

	Hay River	Fort Vermilion	Fort Smith	Fort Providence	Fort Simpson	Fort Norman	Fort McPherson
North Latitude	$60^{\circ}51'$	$58^{\circ}23'$	$60^{\circ}01'$	$61^{\circ}20'$	$61^{\circ}52'$	$64^{\circ}54'$	$67^{\circ}26'$
West Longitude	$115^{\circ}40'$	$110^{\circ}03'$	$111^{\circ}58'$	$117^{\circ}40'$	$121^{\circ}21'$	$125^{\circ}00'$	$134^{\circ}57'$
Elevation (m)	161	289	202	159	132	82	30
Mean Annual Temperature ($^{\circ}$C)	-3.8	-1.7	-3.5	-4.1	-3.8	-6.2	-8.4
Annual Precipitation (mm)	340	328	331	263	345	333	337
May-September Precipitation (mm)	167	203	187	129	201	205	139
Frost Free Days	97	81	64	77	89	58	81
Growing Degree Days	978	1193	1074	1108	1156	970	766
Moisture Deficit (mm)	192	-	185	242	180	-	244

SOURCE: Kozak and Rostad, Soil Survey, 1977; Department of Environment, Atmospheric Environment Service.

sultant moisture deficit limit the growth of vegetation and make agriculture unproductive at times.[17] Water for irrigation could be taken from the Hay River, but this would require pumps to lift the water up banks 5-10 m (15-30 ft) high and a system of distribution to field crops.

The average frost-free period is 97 days (range 40-126 days). Hay River's location beside the lake and the resultant warming effect give Hay River a longer frost-free period than places farther south, but away from the influence of the lake.[18] Although the start of the growing season may be delayed by cold air blowing off the lake, still covered with ice in May and June, it is extended in the fall. The heat stored in the lake offsets the reduced solar radiation and delays both frosts and lake freeze-up. Lake breezes cause the mixing of surface air layers which tends to delay the formation of radiation frost and fog.

There are only 978 accumulated degree days above 5°C compared with 1156 degree days at Fort Simpson which is 1° latitude farther north.[19] The amount of solar radiation is increased by a long photoperiod and bright sunshine,[20] but the effectiveness of this radiation is reduced by the presence of the lake and the snow and ice cover in spring. However, the concentration of heat in the relatively short growing period with long photoperiod allows the cultivation of crops that have adapted, are unaffected, or tolerant of a long photoperiod.[21]

Wind conditions are important during the summer months for their effects on break-up dates of winter lake ice, transportation for fishermen to different parts of the lake, and for freight traffic along the shallow south shore of the lake. The long fetch across Great Slave Lake from the north shore makes wind from this direction most important. The prevalent strong winds in May and June blow from the northwest and northeast quadrants. These winds push the melting lake ice onto the south shore, blocking the water route between the mouth of the Slave River and the entrance to the Mackenzie River. From July to October, the strong winds over 30 kph blow mainly from the northwest.[22] These high winds prevent fishermen from pulling their nets and travelling to the fish stations especially during September which is the stormiest month but also the time when fish are plentiful at the spawning grounds.[23] September is usually the last month for sending freight down the Mackenzie River system and any serious delays could cause the stranding of boats in low water or entrapment by newly forming ice on the return journey.

Weather conditions influence summer and winter activities. High temperatures and rainfall can hasten spring snowmelt and break-up of ice thus creating an earlier fishing and transportation season. Similar conditions in summer favor good harvests of field and garden crops. In winter, mild weather can disrupt traditional hunting and trapping and transportation. Lack of low temperatures prevents the freezing of winter trails across muskeg to hunting grounds. Absence of snow limits the use of toboggans and the ability to track large game such as moose or woodland caribou. The quicker the lakes and rivers freeze, the sooner the winter fishing season can begin without the possibility of ice and nets being broken up by winter storms. Hard solid frozen ground and thick ice provide safe and fast roadways for winter roads and trails. However, very thick ice is a hindrance to the laying of nets under the ice and can also delay spring breakup.

Low winter temperatures increase the consumption of fuel. Hay River has a total of 8085 heating degree days below 18°C compared with only 5450 in Edmonton.[24] Residents of Hay River have needed to cut substantial quantities of wood to heat any large permanent buildings or more recently, import petroleum products.

Cold winter weather provides better conditions for mineral exploration in low muskeg areas with less damage to the environment. Long mild periods of fall weather and extended springs can be a disadvantage to the progress of winter and summer activities.

Freeze-up, Break-up, and Ice Conditions

During the winter months, the rivers and lakes which form the summer transportation arteries continue to play an important role in transportation by acting as ice bridges, landing strips, and highways. The intervening fall freeze-up and spring break-up disrupt transportation and associated economic activities.

Rivers usually freeze over and break up sooner than the larger lakes. Since most of the rivers in the Mackenzie

River system flow northwards, break-up occurs progressively downstream which would normally aid transportation. However, the large lakes; Athabasca, Great Slave, and Great Bear, which form part of the system, break up more slowly and disrupt this general pattern delaying northern transportation (Table II).

The Hay River, near its mouth, begins to freeze over about October 20[25] and is safe for vehicular traffic from as early as October 22 to as late as November 27. The ice reaches an approximate thickness of 104 cm (41 in). Ice formation on the Mackenzie River commences in the latter half of October and freeze-up progresses up stream from Aklavik on October 12 to Fort Providence where strong currents keep the river open until early December.[26]

The large size and depth of the lake along with the large amount of stored summer heat lengthen the freeze-up period of Great Slave Lake to over two and a half months. Ice begins to form in sheltered bays in mid October, but fall storms easily break up the newly formed ice. The main body of the lake becomes ice bound between December 15 and January 1. The ice on Great Slave Lake near Hay River is safe enough for runways and winter roads by the last two weeks of December, and on occasions, may be used as late as May. The lake ice can reach thicknesses of 152-183 cm (60-72 in). Pressure ridges formed by the movement and expansion of the ice can attain the height of 1.83-3.05 m (6-10 ft) and stretch for 48 km (30 mi). These ridges and wide

Table II

DATES OF FREEZE-UP AND BREAK-UP

SETTLEMENT	COMPLETE ICE COVER			WATER CLEAR OF ICE		
	AVERAGE	EARLIEST	LATEST	AVERAGE	EARLIEST	LATEST
Fort McMurray (Athabasca R)	Nov 16	Oct 27	Dec 31	May 2	Apr 18	May 20
Fort Chipewyan (L Athabasca)	Dec 2	Nov 9	Dec 20	May 29	May 13	Jun 17
Fort Vermilion (Peace R)	Nov 12	Oct 26	Dec 4	May 3	Apr 18	May 22
Fort Smith (Slave R)	Nov 18	Oct 24	Dec 6	May 14	May 3	May 21
Fort Resolution (Bay)	Nov 15	Oct 13	Dec 7	Jun 9	May 24	Jun 26
Yellowknife (Back Bay)	Oct 28	Oct 10	Nov 18	Jun 14	Jun 5	Jun 25
Hay River (River)	Oct 27	Oct 12	Nov 16	May 8	Apr 28	May 12
Hay River (Lake)	Dec 13	Dec 7	Dec 18	Jun 12	Jun 12	Jul 4
Fort Providence (Mackenzie R)	Dec 11	Nov 23	Jan 31	May 23	May 5	Jun 19
Fort Simpson (Mackenzie R)	Nov 27	Nov 15	Dec 15	May 25	May 16	May 31
Fort Simpson (Liard R)	Nov 21	Oct 23	Dec 10	May 17	May 6	May 31
Fort Good Hope (Mackenzie R)	Nov 8	Oct 22	Nov 28	May 31	May 19	Jun 9
Aklavik (Mackenzie R)	Oct 12	Oct 3	Oct 22	May 31	May 23	Jun 6
Port Radium (Great Bear L)	Nov 24	Nov 11	Dec 11	Jul 9	Jun 17	Jul 26

SOURCE: Department of Fisheries and Environment, Atmospheric Envirmonment, W.T.R. Allen, Freeze-up, Break-up. (see Footnote 40).

open leads of water are serious obstacles to vehicular trafic.[27]

The break-up of the Mackenzie River system progresses from April in the south to July in the north. The break-up of the ice at the mouth of the Hay River occurs between April 22 and May 21; but the river is usually free of ice by the first week of May. Similarly, all the large rivers leading into the Great Slave Lake, the Athabasca, Peace, and Slave are free of ice and open to navigation in early May. By contrast, Great Slave Lake breaks up much later. Areas of open water are created at the mouth of rivers in early May. By early June, higher temperatures and prevalent north-easterly winds help to form ice floes. Most of the ice is completely melted by mid June. However, in some years, large floes may be blown by the wind to block the lake from Hay River to the entrance to the Mackenzie River. Sheltered bays in the East Arm of the lake do not break up until late June or early July.

Break-up of the Mackenzie River is much more rapid than the break-up of the Great Slave Lake. Open water occurs first at the mouth of the Liard River at Fort Simpson, and at the head of the Mackenzie River near Fort Providence in mid May. Ice breaks up almost simultaneously between Fort Simpson and Arctic Red River and, by May 31, the river is open for navigation as far north as Aklavik. Although Great Bear Lake breaks up in early June, open water on Great Bear Lake is delayed until July 9 but remains open well into November.

Spring break-up is of paramount importance for the opening of the summer shipping season, and the commencement of domestic and commercial fishing. The high waters of spring can be disastrous causing the flooding of settlements and farmland, but at the same time, floods build up new soils, prevent riverside meadows from becoming overgrown, and bring fresh supplies of driftwood which were formerly used for fuel.

Information on floods at Hay River has been recorded as early as 1868.[28] Periodic floods have been recorded since 1904 on the east bank of the main channel but only with slight damage because of the small size of the settlement.[29] Since the construction of a larger townsite on Vale Island and the modification of river channels by roadways in 1946, flooding of a more serious nature has occured (Fig.4).[30]

Flood levels have resulted from a combination of high flows and the formation of ice jams near the mouth of the river, especially the East Channel. Ice jams form when the river ice piles up behind the solid ice cover on Great Slave Lake at the mouth of the river. The force of the swollen rivers in the spring breaks the ice into floes which accumulate on the northward journey creating ice jams and holding back the melt water. Before 1946, much of the water and ice floes at peak flow escaped to Great Slave Lake through the West Channel taking water and ice away from the populated banks of the East Channel. The West Channel acts as an overflow channel preventing floods in most years. After the construction of roadway dykes across the West Channel and the side channels of the main river in 1946 and succeeding years, the spring melt water flow pattern was altered. More water and ice floes were concentrated in the main channel where the ice was thick and firm. Here the ice floes usually jam and flood waters spill over into the side channels and over the low river banks onto property on Vale Island. The occurrence of these floods has influenced the pattern of community development and land use.

Biological Factors

Vegetation

The Hay River area lies within the Boreal Forest[31], the main habitat of the principal fur bearing animals. White spruce (Picea glauca) and black spruce (Picea mariana) are the dominant tree species. Local microclimatic, topographic, and soil conditions as well as successional changes and human influence have caused the replacement of these dominant tree species by other species.

Extensive tracts of muskeg and open canopied stunted black spruce cover the cooler uplands of the Cameron Hills and Caribou Mountains and lodgepole pine (Pinus contorta) and aspen poplar (Populus tremuloides) flourish on the steep well drained flanks of these uplands. The low areas of the Great Slave Lake Plain are covered with open muskeg, black spruce, tamarack (Larix laricina) and willows (Salix species). Stands of jackpine (Pinus banksiana) and white spruce occupy dry ridges (dunes, deltaic deposits and recessional shore-lines). Dense stands of slender jackpine and aspen quickly regenerate burntover areas, but do not provide good quality timber.[32]

The better-drained richer alluvial soils near the banks of the main rivers and creeks support stands of white spruce and balsam poplar (Populus balsamifera). Although these stands are not extensive, they are of relatively good quality and size for timber production, and more readily accessible. Stands similar to these were a prime source of both construction timber and fuel for Hay River buildings and steamboats on the Mackenzie River system. The stands of spruce and poplar also hindered overland travel along the river banks.

Several shrubs and herbaceous plants within the forest understory and on the forest floor provide edible berries. These include the saskatoon (Amelanchier alnifolia), cranberry (Vaccinum vitis-idaea), bearberry (Arctostaphylos uva-ursi) and cloudberry (Rubus chamaemorus).

To the south of the Cameron Hills, in the Hay River Valley as the name implies, extensive wet grasslands were originally interspersed with mixed aspen-white spruce forest. These grasslands were kept open by grazing and burning by natural and man-made fire. This parkland extended south into the Peace River Valley and was possibly more extensive than at the present time.[33]

Within the delta of the Hay River, the low islands, the banks of the various channels and the sloughs occupying former river channels, provided naturally occurring meadows suitable for cattle grazing and hay production.

Terrestrial Wildlife

The wildlife resources were of great importance in the development of the Hay River area. They provided food, clothing, and utensils for aboriginal people and formed the basis for the expansion of the fur trade during the eighteenth and nineteenth century.

Different species of wildlife inhabit different vegetation covers. Small rodents, red squirrel (*Tamiasciurus hudsonicus*), Spruce Grouse (*Canschites canadensis*), porcupine (*Erethizon dorsatum*), red fox (*Vulpes vulpes*), fisher (*Martes pennanti*), and marten (*Martes americans*) inhabit the mature stands of spruce or pine found on well-drained ground. In the spruce-poplar forests of the river valleys and in areas regenerating after forest fires; small rodents; Ruffed Grouse (*Bonasa umbellus*), Sharptailed Grouse (*Pedioecetes phasianellus*), snowshoe hare (*Lepus americanus*), lynx (*Lynx lynx*), timber wolf (*Canis lupus*), moose (*Alces alces*),and woodland caribou (*Rangifer tarandus caribou*) are common species. Beaver (*Castor canadensis*), otter (*Lantra canadensis*),and muskrat (*Ondatra zibethicus*) as well as moose are found along rivers, creeks, ponds, and lakes with herbaceous vegetation and leafy poplars, willows, and alder (*Alnus tenuifolia*).

The land south of Tathlina Lake and Buffalo Lake provides feed for significant numbers of moose and woodland caribou. Woodland caribou inhabit the slopes of the Caribou Mountains in winter.[34] The wood bison (Bison bison athabascae) rarely reaches within 40 km (25 mi) of the eastern end of Buffalo Lake; but in the eighteenth and nineteenth centuries its range was more widespread and bison were reported north of Great Slave Lake, east of the Slave River, in the Upper Hay River Valley, and in the Peace River Valley as well.[35]

Two major fur bearing animals, the marten and beaver, occupy different habitats. Marten are more numerous southwest of Hay River on the forested slopes south of the Great Slave Lake Plain and morainic ridges east of Buffalo Lake. The beaver builds its lodges in large numbers in wet, low-lying land south of Buffalo Lake and Tathlina Lake, the lake country of the Cameron Hills, and along the numerous creeks draining from the Cameron Hills and Caribou Mountains into the Hay River.

North of Tathlina Lake and Buffalo Lake where the land is flatter, more poorly-drained, and less forested, the same species are generally present but in smaller numbers. The more productive environments lie at considerable distance south of Hay River.

East of the Slave River, the Great Slave Lake Plain merges with the Canadian Shield. The Shield with its transitional forest cover provides a poorer habitat for fur bearing animals. Therefore, from the point of view of the early fur trade, the Great Slave Lake Plain and adjacent lands southwest of the Slave River were more significant than the Shield occupied by large herds of barrenground caribou (Rangifer) tarandus groenlandicus) but few fur bearing animals.

The abundance and distribution of terrestrial wildlife is modified by forest fires, natural predators, and hunting by man as well as the slow successional change in the forest cover and consequent changes in food supplies.[36] There is limited evidence on which to base detailed descriptions of former distributions of wildlife. Wood bison appear to have been more widespread than at present as previously indicated. The distribution of marten and beaver appear to be in similar geographic locations today as in the early and mid nineteenth century as later discussion of the fur trade will indicate.

Fish

Fish provided a staple part of the diet of northern residents and their sled dogs and were caught in large numbers in many of the lakes and rivers in the Hay River area. Great Slave Lake produced most of the fish and in the mid twentieth century became the location of a major commercial fishery exporting fish to southern markets.

The physical conditions of the Great Slave Lake give rise to an oligotrophic condition. Hence, although the lake contains large number of fish, the commerical fishery has to be carefully managed because of the extremely limited productivity caused by the slow rates of growth of the fish.[37]

Twenty-five species of fish live in the lake but only 8 are commonly caught in commercial gill nets.[38] The commercial species at the present time are whitefish (Coregonus clupea-

formis), lake trout (*Salvelinus naymuchus*), inconnu (*Stenodus leucichthys*), northern pike (*Esox lucius*), and pickerel (*Stizostedium vitreum vitreum*). Cisco (*Leucichthys* species), burbot (*Lota lota*), and longnose sucker (*Catostomus catosomus*) may constitute up to 40% or more of the total species caught but they are culled on the lake because of lack of market demand.[39]

Whitefish is the dominant bottom-feeding species forming 40% of the total fish population caught down to depths of 75 m (200 ft). It is abundant in the shallow waters of the main body of the lake but scarce in the cool deep waters of the East Arm.[40] Spawning occurs (along the gravel shallow waters of) the north shore in mid September and a little later on the south shore. The whitefish mature in 10 to 12 years.[41]

Lake trout was once widespread but has declined in numbers in the west part of the lake because of commercial fishing. It is found in depths up to 90 m (275 ft) but is abundant at 15 to 35 m (50-100 ft) where it feeds on cisco. Lake trout mature in 15 to 24 years. This species was plentiful in the deep cool waters of the East Arm; but stocks have declined and commercial fishing is now banned in this area of the lake.[42]

The inconnu abounds in the shallow, heavily silted water off the south shore from the Slave River to the entrance of the Mackenzie River. Large numbers enter the Buffalo and Talston Rivers to spawn in the fall. It grows more rapidly than either the lake trout or whitefish reaching 69 cm (30 in) and 4.5 kg (11 lbs) in 10 years.[43]

Other commercial fish, walleye (dory, pickerel) and northern pike (jackfish) inhabit the shallow warm muddy water along the south shore and the northern part of the North Arm.[44]

Tathlina, Kakisa, Bistcho, Hay and Buffalo Lakes are important for domestic fisheries and have been occasionally used for commercial fishing.[45]

Variations in the distribution of fish and numbers caught may be influenced by local weather and water conditions which cause changes in spawning grounds.

Summary

The natural situation features of Hay River are its location on the extensive Mackenzie River system and the north-south route along the Hay River Valley, its location within the fur producing, sub-arctic boreal forest, its proximity to the fish resources of Great Slave Lake and the mineral resources along the western margin of the Canadian Shield.

The main feature of the site is the delta of the north-flowing Hay River where it enters the shallow water of Great Slave Lake.

These features have been significant factors in the establishment of Hay River as a trapping and fur trading settlement, in its later expansion into a regional missionary educational community, and more recent growth into a major commercial fishing and northern transportation center. The delta site has been adapted to provide harbor, docking and storage facilities for the changing methods of transportation as well as building sites for the growing town. Local soil and climatic conditions have permitted the production of agricultural goods which enabled the local population to supplement the traditional food supplies from forest and lake. At the same time, the low delta is subject to floods during spring break-up and have necessitated major changes in site development as the community has grown in size and taken on more complex functions.

Footnotes

[1] The limestones of the escarpment form part of the Twin Falls Formation of Upper Devonian age. Detailed discussion of the geology of the escarpment is found in G.K. Williams, The Hay River Formation and Its Relationship to Adjacent Formations, Slave River Map-Area, NWT. Canada, Department of Energy, Mines, and Resources, Geological Survey, Paper 75-12 (Ottawa, 1977), pp. 1-17. An exploratory account of the geology and surface features of the area is found in A.E. Cameron, "Hay and Buffalo Rivers, Great Slave Lake and Adjacent Country," Canada, Department of Mines, Geological Survey, Summary Report 1921, part B (Ottawa, 1922), pp. 1-44. Alexandra Falls were named in 1872 by Bishop Bompas while on an evangelical tour. He discovered the falls and named them after Alexandra, then Princess of Wales and later Queen Alexandra. Louise Falls were named by Dr. A.E. Cameron of the Geological Survey who traversed the Hay River in 1917. The falls were named after Queen Alexandra's eldest daughter, Louise. (Source Secretariat Geographical Names, Ottawa).

[2] J.H. Day, Soils of the Upper Mackenzie River Area, NWT. Canada, Department of Agriculture, Research Branch (Ottawa, 1968), pp.9-11.

[3] B.G. Craig, Glacial Lake McConnell and the Surficial Geology of Parts of Slave River and Redstone River Map-Areas, District of Mackenzie, Canada, Department of Mines and Technical Surveys, Geological Survey, Bulletin 122 (Ottawa, 1965).

[4] Buffalo Lake area 600 km² (230 sq mi), elevation 265 m (870 ft); Tathlina Lake area 550 km² (210 sq mi), elevation 278 m (911 ft); Kakisa Lake area 350 km² (135 sq mi), elevaion 222 m (729 ft).

[5] Small headlands such as Fish Point, Birch Point, and False Point have been formed from glacial deposits and ice pushed ridges and gave some protection for small vessels. A.E. Cameron, "Reconnaissance on Great Slave Lake, North West Territories," Canada, Department of Mines, Geological Survey, *Summary Report* 1916 (Ottawa, 1917), pp. 66-67.

[6] The first known account of brigades seeking shelter was in 1800; see McGill University Library, Montreal, CH 174S156, John Thomson Diary, October 7, 1800.

[7] C.S. Lord, *Mineral Industry of District of Mackenzie, NWT.* Canada, Department of Mines and Technical Surveys, Geological Survey, Memoir 261 (Ottawa, 1951).

[8] see Day for a detailed analysis of the soils of the Hay River area, also L.M. Kozak and H.P.W. Rostad, *Soil Survey and Land Evaluation of the Hay River Valley Area, NWT.* (Saskatoon: Saskatchewan Institute of Pedology, University of Saskatchewan, 1977).

[9] see footnote 6.

[10] J. Brian Bird, "The Physical Characteristics of Northern Canada," in *The North, Studies of Canadian Geography*, ed. William C. Wonders (Toronto: University of Toronto Press, 1972); pp. 12-13.

[11] Canada, Department of Indian and Northern Affairs, *Soil and Soil Suitability Series, Hay River Valley, NWT.* Map *sheets - Soil Drainage, Permafrost and Subsurface Texture*, (Ottawa, 1977); Wallace, p. 19, indicated permafrost on Vale Island at a depth of 45 cm (18 in) and in drill holes to a depth of 4-5 m (12-15 ft).

[12] F. Kenneth Hare and Morley K. Thomas, *Climate Canada*, 2nd ed. (Toronto: John Wiley and Sons, 1979), pp. 15, 114-19.

[13] Canada, Department of the Environment, Atmospheric Environment Service, *Temperature and Precipitation, 1941-1970, The North-Y.T. and NWT.* (Downsview, n.d.). This is the source of climate data unless otherwise stated.

[14] Ibid., Climatological Services Divison, *Climatic Statistics, 2202398 Hay River and 2202400 Hay River* (Downsview, n.d.).

[15] 148.8 mm of rain falls during June to September and represents 81% of the total rainfall and 44% of the total precipitation. Rain falls on only 44 days of the year and the frequency of rainfall on an hourly basis for June to September is 6.9, 6.2, 5.8, and 9.7% respectively, Canada, Department of the Environment, Atmospheric Environment Service, Climatological Services, *Hourly Data Summaries - No. 99, Hay*

River (Downsview, April 1973), p. 25.

[16] Ibid., p. 28.

[17] Day, P. 13, estimated the soil moisture value as 101.6 mm and a moisture deficit of 149.9 mm. He estimated 43 days from the beginning of the growing season to the drought point (mean date July 2).

[18] The frost free period is highly variable. The earliest date of the last spring frost is May 16, the latest July 1. The earliest date for the first fall frost is July 31 and the latest October 4. Fort Smith has a frost free period of 64 days and Fort Vermilion 91 days. G.M. Hemmerick and G.R. Kendall, Frost Data 1941-70, Canada,Department of the Environment, Atmospheric Environment, CLI 5-72 (Downsview, September 1972), pp. 5-6.

[19] Kozak and Rostad, p. 15.

[20] Hay River has a total of approximately 2400 daylight hours during the growing season and 1200 hours of bright sunshine from May to September, the same amount as at Fort McPherson, Fort Vermilion and Toronto. F.J. Eley and B.F. Findlay, Agroclimatic Capability of Southern Portion of the Yukon Territory and Mackenzie District, NWT. Canada, Department of Fisheries and Environment, Atmospheric Environment Service, Meteorological Applications Branch, Project No. 33 (Toronto, September, 1977), fig. 5; B.J. Yorke and G.R. Kendall, Daily Bright Sunshine 1941-1970, Canada, Department of the Environment, Atmospheric Environment Service, CLI 6-72 (Downsview, 1972), p. 9.

[21] Some species such as cucumber, radish, some potatoes, red clover, winter wheat and barley, and oats prefer long light periods. Peas, carrots, celery, tomatoes, and corn are not affected by the photo period. Cabbage, lettuce, spring barley, rye, and alfalfa are tolerant of long daylight hours, Eley and Findlay, pp. 18-20.

[22] These strong winds amount to 9.9, 9.6, 20.2, 9.2 hours during July to October, Hourly Data Summaries - No. 99, Hay River, pp. 7-8.

[23] D.S. Rawson, "The Physical Limnology of Great Slave Lake," Journal of Fisheries Research Board of Canada, 8, 1 (1950): 11.

[24] Day, p. 13; Wallace, p. 19.

[25] Dates and thicknesses are average figures from W.T.R. Allen, Freeze-up, Break-up and Ice Thickness in Canada, Canada, Department of Fisheries and Environment, Atmospheric Environment Services, CLI 1-77 (Downsview, 1977). Information com-

piled from records dating back to 1867.

[26] For details of dates and causes of break-up and freeze-up of the Mackenzie River and Great Slave Lake see J. Ross Mackay, "Progress of Break-up and Freeze-up along the Mackenzie River, Geographical Bulletin, No. 9 (1963), pp. 103-116; Canada, Department of Fisheries and Environment, Sailing Directions, Great Slave Lake and Mackenzie River, 4th edition (Ottawa, 1977).

[27] D.S. Rawson, "The Physical Limnology of Great Slave Lake," p. 49.

[28] Hudson's Bay Company Archives (Abbrev. HBCA), Winnipeg, B.200/b/36/fos.207-10, John Hope to R. MacFarlane, December 18, 1868. The author wishes to thank the Hudson's Bay Company for permission to use and quote from materials in its archives.

[29] D.A. Harrison, "Break-up and Flooding in Hay River, NWT," 1977 (typewritten), unpublished account of dates and descriptions of break-up from 1894-1977, collected from diaries, letters, government reports, newspapers and personal observations.

[30] Stanley, Grimble, Roblin Ltd. "Civil Engineering Report on Flooding of Hay River Townsite, NWT," (Edmonton, 1959), mimeographed); Underwood McLellan (1977) Ltd. "Flood Risk Mapping of Hay River, Northwest Territories," (Edmonton, March 1979), (mimeographed), produced for Inland Waters Directorate, Environment Canada.

[31] J.S. Rowe, Forest Regions of Canada, Canada, Department Of Fisheries and the Environment, Canadian Forestry Service, Publication No. 1300 (Ottawa, 1972), pp. 6, 37, 45; for details of vegetation in Northern Alberta see Margaret E. A. North, A Plant Geography of Alberta, University of Alberta, Department of Geography, Studies of Geography, Monograph 2 (Edmonton, 1976).

[32] H.P.W. Rostad, R.A. White and D.F. Acton, Soil Survey and Land Evaluation of the Liard and Mackenzie River Area, Northwest Territories, (Saskatoon: Saskatchewan Institute of Pedology, University of Saskatchewan, 1976); pp. 22-36.

[33] Controlled firing was practiced by the Slavey and Beaver Indians of the Meander River area as part of a mangement program to increase food and fur bearing animals.

[34] Distribution of wildlife was taken from the two following map series - Canada, Department of the Environment, Northern Land Use Information Sheet, (Ottawa, 1975), map sheets 85B, 85C, 85F, and 85G; Alberta, Department of Energy

and Natural Resources, Alberta Land Use Inventory (Edmonton, 1976), map sheets 84M, 84N, and 84O.

[35] Joseph Dewey Soper, "History, Range, and Homelife of the Northern Bison, "Ecological Monographs 11 (October 1941): 357-360.

[36] Beryl C. Gillespie, "Major Fauna in the Traditional Economy," in William C. Sturtevant (Gen. Ed.) Handbook of North American Indians, Vol. 6, Subarctic (Washington: Smithsonian Institution, 1981), pp. 17-18.

[37] The cold water and the low oxygen content slow down the rate of growth of all life in the lake but this is offset to some extent by the large quantities of dissolved salts and detrital material brought in by the surrounding rivers. These materials support the growth of microorganisms in the lower food chain. The basic reference is D.S. Rawson,"The Physical Limnology of Great Slave Lake."

[38] J.J. Keleher, "Great Slave Lake: Effects of Exploitation on the Salmonid Community," Journal of Fisheries Research Board of Canada 29 (1972): 742-43.

[39] R.W. Moshenko and G. Low, Data for the Commercial Fishery for Lake Whitefish, Coregonus clupeaformis (Mitchill),on Great Slave Lake, Northwest Territories, 1979, Canada, Department of Fisheries and Oceans, Western Region, Canadian Data Report of Fisheries and Aquatic Services, No. 194 (Winnipeg, April 1980), pp. 2, 11; Keleher, 1972, pp. 742-43.

[40] The East Arm penetrates over 250 km (150 mi) into the Canadian Shield; its complex geological structure forms very deep bays interspersed with islands that form well protected fishing harbors. The maximum depth is 614 m (2015 ft). By contrast the main body of the lake reaches a maximum depth of only 71 m (210 ft) and approximately 45% is less than 25 m (75 ft) deep.

[41] D.S. Rawson, Northwest Canadian Fisheries Surveys in 1944-45, Bulletin of the Fisheries Board of Canada, No. 72 (Ottawa, 1947), pp. 52-53.

[42] D.S. Rawson, "Studies of the Fish of Great Slave Lake," Journal of Fisheries Board of Canada, 4 (1951): 227-28; stocks have declined because of the demand for lake trout and the slow rate of replacement.

[43] W.A. Fuller, "The Inconnu (Stenodus leucichthys mackenziei) in Great Slave Lake and Adjoining Waters," Journal of Fisheries Research Board of Canada 12, 5 (1955): 768-80.

[44] The North Arm follows the contact zone between the Canadian Shield and the Great Slave Lake Plain for a distance of 160 km (100 mi). The northern portion is less than 25 m (75 ft) deep.

[45] Sol Sinclair, S. Trachtenberg, and M.L. Beckford, Physical and Economic Organization of the Fisheries of the District of Mackenzie, Northwest Territories, Bulletin of the Fisheries Research Board of Canada, No. 158 (Ottawa, 1967), pp. 28, 68-69.

CHAPTER III

ABORIGINAL SETTLEMENT AND THE ESTABLISHMENT OF FUR TRADING POSTS IN THE HAY RIVER AREA PRIOR TO 1821

Aboriginal Settlement

The aboriginal population of the Hay River area formed part of the Northern Athapaskan Indian group which occupied the Boreal Forest from Alaska to Hudson Bay. Within this group, the distribution of subgroups or tribes in the pre-European contact period is difficult to determine precisely because of the limited amount of data. Jenness and Osgood delineated the boundaries of the various subgroups (Figs. 5 and 6).[1] Slavey Indians occupied the lower Hay River Valley and western tributaries, the upper half of the Mackenzie Valley, and the lower Liard Valley. They extended eastward across the Slave River to the area between Great Slave Lake and Lake Athabasca. The Beaver Indians lived in the area to the south of the Slavey Indians in the upper Hay River Valley, the lower Peace River and Athabasca River Valleys. The Chipewyan, who later were very important in the fur trade in the Hay River area, were restricted to the territory east of Great Slave and Lake Athabasca, north of the Churchill River, and south of the treeline. The Yellowknife Indians, who

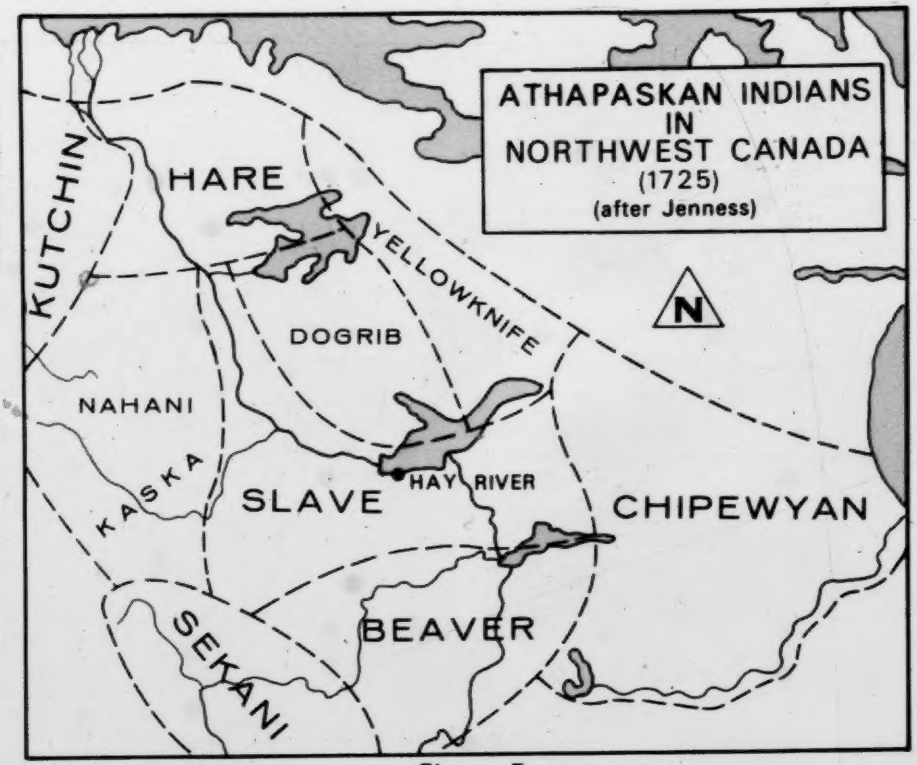

ATHAPASKAN INDIANS
IN
NORTHWEST CANADA
(1725)
(after Jenness)
KUTCHIN
HARE
YELLOWKNIFE
N
DOGRIB
NAHANI
KASKA
HAY RIVER
SLAVE
CHIPEWYAN
SEKANI
BEAVER

Figure 5

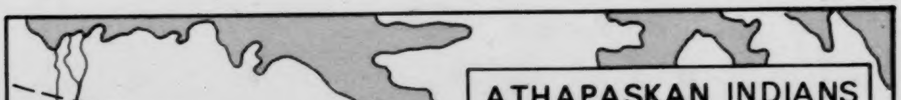

ATHAPASKAN INDIANS
IN
NORTHWEST CANADA
AT TIME OF FIRST
HISTORIC CONTACT
(after Osgood)
KUTCHIN
HARE
BEAR LAKE
MOUNTAIN
N
DOGRIB
YELLOW KNIFE
KASKA
SLAVE
HAY RIVER
CHIPEWYAN
BEAVER
SEKANI
SARSI

Figure 6

also became involved with the fur trade in the Hay River Valley, were limited to the area northeast of Great Slave Lake towards the Barren Lands.[2]

Little detail is known about the way of life and settlement pattern of the Slavey Indian in the precontact and contact period. Their number amounted to about 1200; but the primary economic and social unit was most likely the local group of about 10-20 members. These groups lived in semi-isolation from one another in order to use the resources of the ecosystem effectively. They occupied restricted geographic areas around lakes which provided a steady source of fish, the main part of the diet. Such localities as Bistcho Lake, Trout Lake, Kakisa Lake, Hay Lake, Buffalo Lake, Buffalo River, and Pointe Desmarais were, throughout the nineteenth century, areas of concentration of people. Here, fish were caught by hook or net and the surrounding wetlands and sheltered hillslopes provided moose and caribou. Groups of up to 200-250 people probably assembled temporarily during the summer at Great Slave Lake while food supplies lasted.[3] Pointe Desmarais, Hay River, Fish Point, and Buffalo River were possible gathering places because of their sheltered sites and association with spawning runs of white fish and inconnu. Small one or two-man spruce bark canoes were used in sheltered waters.

It has been suggested that larger clan-like social groupings existed in precontact times in the upper Hay River Valley where there were more grassland and large game.[4]

The specific locations for winter and summer camps are not known. In the camps, families were protected from summer rain and wind by conical bark and brush shelters often arranged in pairs about a central fireplace. In wintertime, log houses provided substantial shelter at fishing camps. The pitched-roofed houses had moss-chinked log walls and a covering of spruce boughs. Some houses were constructed with logs place vertically into the ground.[5] Skins were infrequently used for covering because they were scarce and were utilized mainly for clothing.

The boreal forest wildlife hunted by the Slavey Indians included small game animals, moose, and woodland caribou which supplemented the fish diet and provided materials for clothing and utensils. Most game, both large and small, was caught in sinew snares; but large game animals were also hunted with clubs or bow and arrow while swimming across open water or travelling across snow-covered open ground.

Most travel was on foot but small canoes were used for short river and lake journeys. Winter travel was by means of snowshoe or man-hauled toboggan.

The Beaver Indian had to be more mobile than the Slavey because of their reliance on game rather than fish as a staple food. They travelled with the aid of toboggans in winter and in birch bark canoes in summer. The estimated precontact population was about 1500; but the small independent band formed the basic social group. Although the Beaver Indian inhabited the parkland of the Peace River

Valley, they also hunted in the upper tributaries of the Hay River.[6] Here also, in the riverside meadows and wetlands moose provided an important source of skins for clothing as well as meat for food.[7]

This general pattern of population distribution in the Mackenzie River system and settlement of the indigenous people locally in the Hay River area was modified by the influence of the European fur trade companies. The fur trade led to some changes in the life style of the aboriginal peoples and to the establishment of nonnative settlements in the Hay River area. The location of these settlements was dictated by the needs of the fur trade.

Expansion of the Fur Trade into the Hay River Area

The influence of the fur trade probably was felt in the Hay River area long before direct contact with traders in the late 1780s. Soon after the establishment of the Hudson's Bay Company in 1670 and the construction of posts on the shores of the Hudson Bay, attempts were made to make direct contact with the Indians of the northwest interior (particularly the Chipewyan).[8] Contact with these people was intended to expand trade and cut out the expense of the York Factory Cree Indian middleman. In 1717, Fort Churchill was constructed to support the trade with the Chipewyans who in turn traded with the "Far Indians", namely, the Slavey, Dogrib, and Redknife (Yellowknife), thus bringing the Hay River area within the sphere of influence of the fur trade.[9]

By the 1760s, some Beaver Indians made long trading journeys to Churchill bypassing both Chipewyan and Cree middlemen.[10] Samuel Hearne's journey of 1772 revealed the rich fur potential of the Slave River lowlands which later became part of the "Beaver Country". His journal showed the movement of both Chipewyan and Cree Indians into the upper Mackenzie River system. The Cree expanded west into the Lake Athabasca area and the Chipewyan south and west away from their homeland in the forest-tundra ecotone into the rich fur areas of the boreal forest. According to Jenness, both groups moved into areas occupied by Slavey Indians.[11]

In the 1770s, the pattern of trade and overland route from Great Slave Lake to Hudson Bay, involving the Chipewyan middleman and the "Far Indians" of the Mackenzie Basin, changed as a result of competition by fur traders originating in Montreal. These traders gained direct access to the Mackenzie Basin by the discovery of the Methy Portage route into the Athabasca River in 1778 by Peter Pond.[12]

In the 1780s, the Beaver Indians in the Peace River Valley provided much of the fur and also the provisions for the spring brigades leaving for southern Canada. In the summer of 1788, Boyer established a fort on the north side of the Peace River not far from the present town of Fort Vermilion and near the mouth of the Boyer River which was named after him (Figs. 1-2, 8). The upper reaches of this river give access to the Hay River basin. It is possible that he traded in this area because of the plentiful resources of beaver, moose, caribou, and bison. Boyer planted a successful garden of turnips, carrots, parsnips, and potatoes.[13] This marked the beginning of the importance of Fort Vermilion as an agricultural food supplier to more northern posts and the spring brigades. Fort Vermilion was to play a key role in the settlement of the Hay River area during the early part of the nineteenth century because of its location on the Peace River which linked it to the major southbound water transportation routes.

The other line of access to the Hay River area followed the Mackenzie River system along the Slave River and Great Slave Lake. This route was followed by members of the North West Company in search of the "Far Indians" and Alexander Mackenzie in his quest for the Pacific Ocean in 1789 which led him to the Arctic Ocean.[14]

Both Peter Pond and Alexander Mackenzie produced maps of the Athabasca and Mackenzie areas and these indicated an increasing knowledge of the Hay River and its potential for the fur trade.[15] Pond's map dated July, 1787, showed that Great Slave Lake consisted of two distinctive parts, the island-studded East Arm and the open western section (Fig. 7). This was similar to Hearne's map of 1772. There was, however, a small river flowing into the southwest corner of Great Slave Lake in the same position as the Hay River. A small west bank tributary of the Peace River also was marked in the position of the Boyer River. Between these two small rivers and the large "River of the Mountains" (Liard River) to the west, were several small lakes called "Little Arauba-

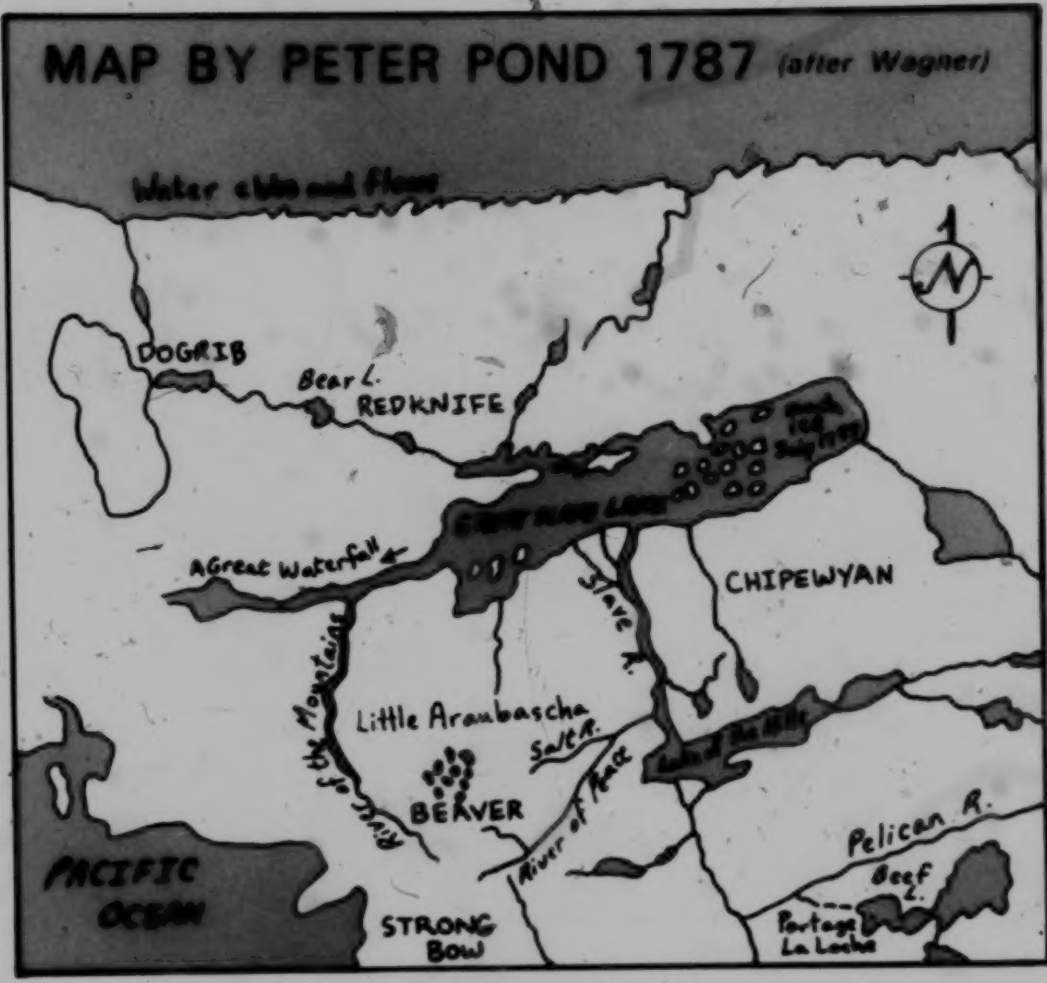

MAP BY PETER POND 1787 (after Wagner)
Water ebbs and flows
DOGRIB
Bear L.
REDKNIFE
Great Slave Lake
A Great Waterfall
CHIPEWYAN
Slave R.
River of the Mountains
Little Araubascha
Salt R.
Lake of the Hills
BEAVER
River of Peace
Pelican R.
Beef L.
Portage La Loche
PACIFIC OCEAN
STRONG BOW

Figure 7

scha". The area immediately to the south of these lakes was marked with the words "Beaver Ind" signifying that this area and perhaps that surrounding the lakes themselves were the hunting grounds of these Indians.

These facts of topography, culture and toponymy indicate the importance of the Hay River area as a potential if not actual fur trading area. In 1822, Wentzel used the name "Little Athabascow Lake" for the lake from which the Hay River flows. He stated:

> Hay River ifsues from Little Athabascow Lake. Furs are carried from thence in the winter time to Fort Vermilion on the Peace River. 17

This shows that the resource potential shown by Pond's map was soon tapped by the fur trading companies.

Pond's map showed the distribution of the Indian groups in the same locations as Jenness and Osgood indicated with the exception that he excluded the Slavey Indians leaving blank the area of the lower Hay River Valley and upper Mackenzie Valley.

Mackenzie's map of his route to the Arctic Ocean in 1789 was published in October, 1801. It shows a detailed outline of Great Slave Lake and despite the fact that he did not traverse the south shore he marked in the correct locations of Beaver or Kakisa River, Hay River, Buffalo River, and the Caribou Mountains south of Buffalo Lake.[18]

By the early 1790s, the chief trading post was at the mouth of the Slave River with outposts at Fort Providence and Marten Lake (Lac La Martre) (Fig. 8). The chief participants

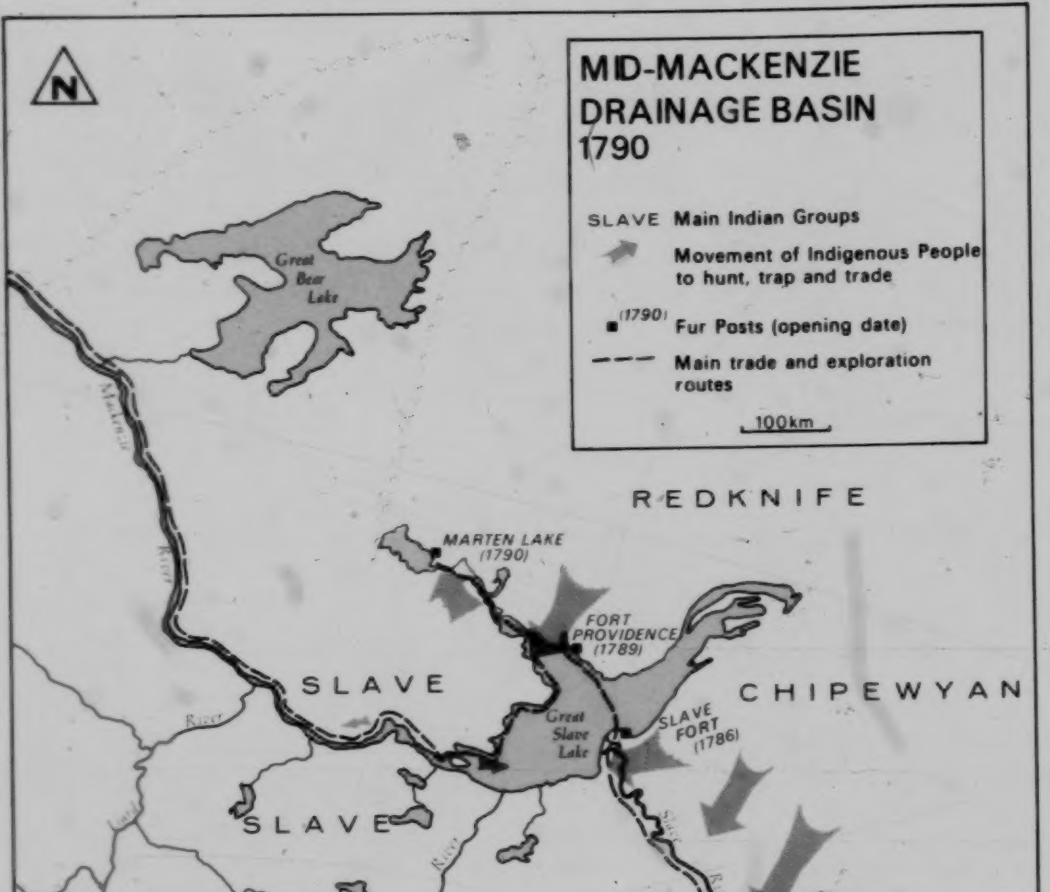

MID-MACKENZIE
DRAINAGE BASIN
1790
SLAVE Main Indian Groups
Movement of Indigenous People to hunt, trap and trade
(1790) Fur Posts (opening date)
Main trade and exploration routes
100km
N
Great Bear Lake
Mackenzie River
REDKNIFE
MARTEN LAKE (1790)
FORT PROVIDENCE (1789)
SLAVE
CHIPEWYAN
Great Slave Lake
SLAVE FORT (1786)
Liard River
SLAVE
Hay River
Slave River
Lake Athabasca
BOYER FORT (1788)
FORT CHIPEWYAN (1788)
POND'S HOUSE (1778)
FORT VERMILION
BEAVER
Athabasca River
Clearwater R.
PORTAGE LA LOCHE (METHY)
Churchill R.
Peace River
Athabasca
North Saskatchewan River

Figure 8

in the trade were the Chipewyans and the Redknifes (Yellowknife) who not only trappped fur bearing mammals but acted as carriers or middlemen for the Slaveys and other groups. Both the Chipewyans and the Redknifes were moving from their traditional lands into the Great Slave Lake Plain. The Slaveys no longer occupied the Slave River Valley and rarely came to the Slave River Fort because of the Chipewyan's control of the trade routes. The majority of the Slavey Indians appear to have been located in the Mackenzie Valley and west of Great Slave Lake on drier terrain where the main fur bearing mammal was marten, an inhabitant of the mature spruce forest. No specific mention is made of the Hay River Valley at this date but probably there was a movement of Slaveys out of the valley as Chipewyans and Redknifes moved into the area.[19]

During the period 1800-1806, there was very intensive competition in the fur trade of the Mackenzie and Athabasca regions among the North West Company, XY Company, and the Hudson's Bay Company. This resulted in the expansion of the trading posts. These occupied the major river valleys - Slave, Peace, Mackenzie, and Liard - surrounding the Hay River basin (Fig. 9).[20] As a result of this greater activity in the fur trade, there was an increased awareness of the fur trade potential of the Hay River area and a continuation of the trends in population movement seen in 1790.

On journeys to and from the Mackenzie River, both channels of the Hay River provided shelter from high winds and

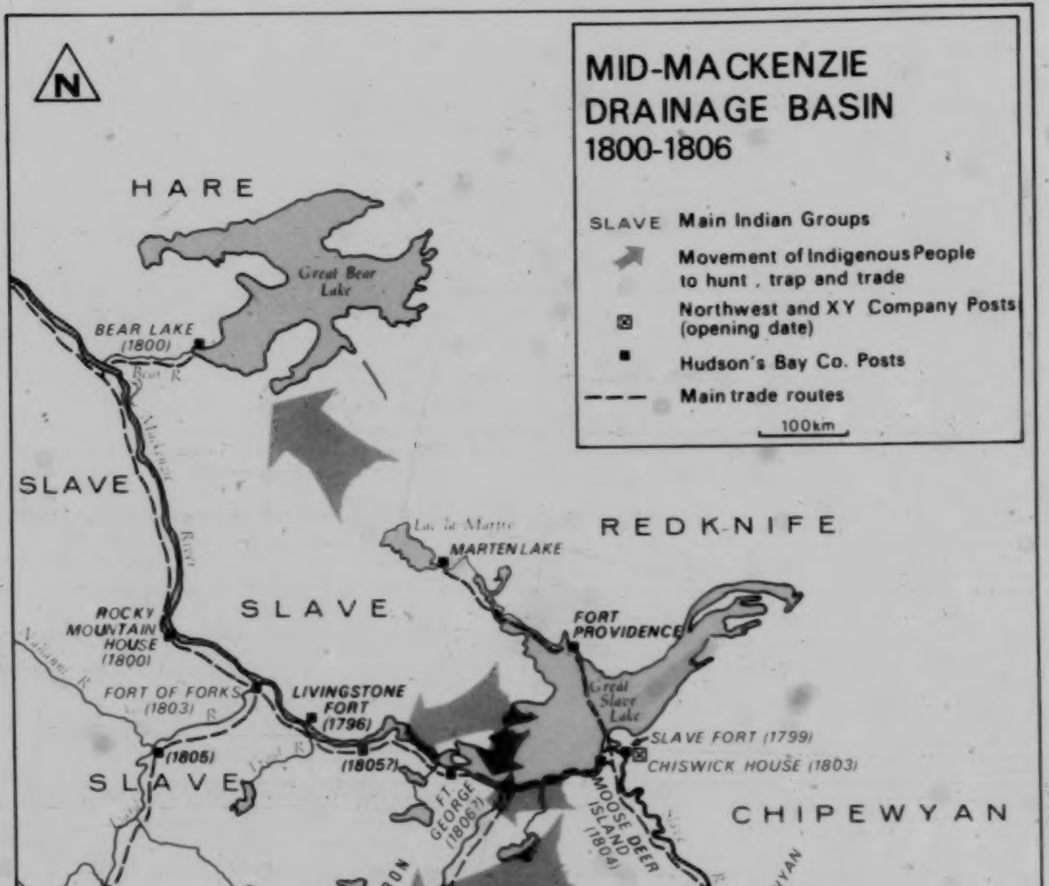

N
MID-MACKENZIE
DRAINAGE BASIN
1800-1806
SLAVE Main Indian Groups
Movement of Indigenous People to hunt, trap and trade
⊠ Northwest and XY Company Posts (opening date)
■ Hudson's Bay Co. Posts
— — Main trade routes
100km
HARE
Great Bear Lake
BEAR LAKE (1800)
Bear R.
Mackenzie River
SLAVE
REDKNIFE
Lac la Martre
MARTEN LAKE
SLAVE
ROCKY MOUNTAIN HOUSE (1800)
FORT PROVIDENCE
Great Slave Lake
Nahanni R.
FORT OF FORKS (1803)
LIVINGSTONE FORT (1796)
(1805)
(1805?)
SLAVE FORT (1799)
CHISWICK HOUSE (1803)
SLAVE
FT. GEORGE (1806?)
MOOSE DEER ISLAND (1804)
CHIPEWYAN
CAMERON HILLS
FORT NELSON (1806)
HAY RIVER (1806)
Hay R.
CARIBOU MTNS
GRAND MARAIS (1800)
FT. CHIPEWYAN (1804)
Lake Athabasca
NOTTINGHAM HOUSE (1802)
MANSFIELD HOUSE (1802)
FORT VERMILION
BEAVER
Peace River
FORT OF FORKS (1792)
Athabasca
Clearwater R.
PORTAGE LA LOCHE
Smoky
North Saskatchewan River

Figure 9

waves for canoes in spite of the shoals and rough water at the entrance:

> Set off after six o'clock carried a light sail all day Encamped at the Riviere au Foin-it wasn't without (effort and considerable) danger that we gained the entrance of the river owing to a very heavy swell.21

James Porter, trader at Slave Fort in 1800, recorded an account of the Hay River Valley given to him by Grand Blanc, a Chipewyan trading chief, on his return from the area in early March.

> here follows the Grand Blancs Discription of th Beaver Country he says that above the Rapids of the Hay River the water is very still and flat swampy lands on both sids to the S. East in Going Up the River is the Caribou mountain and to the N. West is the Slave mountain and another that he Gives no name. between these mountains there is number of Small Rivers and little Lakes intirly Choaked up with Beaver Lodges-he says that he with a Good many of his relation Killed all the Beaver that they Brought from that Country in one of these Rivelets so of Course they must be verey numberous for he along Brought 170 Pluis Exclusive of Robes Capots (etc) for Himself and family and he adds that if there was a fort Established in that Country that they would double the Quantity of furs but the Distance is so Great from this Place that they are obliged to leave of the Trench very early.22

This first detailed account of the Hay River area clearly indicated the value of the fur resources but also showed some of the difficulties of their situation. Grand Blanc's description of the topography supplemented the information provided by the maps of Pond and Mackenzie. His account of the numerous streams and lakes and associated beaver lodges would be of great interest to the trader because some of the more distant lands provided mainly marten which had little commercial value. Grand Blanc's account placed this rich "Beaver Country" in today's southern Northwest Territories and northern Alberta south of Grumbler Rapids a distance of 250 km (150 mi) from Slave Fort by way of a direct overland route. Grand Blanc made no reference to the large falls on the Hay River except for the use of the term "rapids". These falls and the long distance upstream would make difficult the operation of a trading post located in an area well away from established routes.

During the period 1800-1806, the Chipewyans and Redknifes spread farther west into the Hay River Valley, the Mackenzie Valley, and northwest to Great Bear Lake to take a more aggressive role in the trapping and trading of furs. A seasonal migration pattern developed centered on the Great Slave posts particularly those in the Slave River Delta.[23] In the summer and fall, the Chipewyans and Redknifes occupied their traditional homelands northeast of Great Slave Lake. Here, the barrenland caribou migrating from the "Barrenlands" provided the basic necessities of life. A few fur bearing animals were trapped as well. During early winter, the Indians travelled westwards where they traded some caribou skins, meat, and a few furs. In return, they received supplies and tools on credit before travelling into the "Beaver Country" south of Great Slave Lake, in the Hay River Valley, and into the Mackenzie Valley. In early spring, when the snow and ice were still firm, they returned to the posts to trade before the spring brigades left for southern Canada. From here, they continued eastward to the "Carribou Country".[24]

Some groups of both Chipewyan and Redknifes remained in the "Beaver Country" well into the summer months and some returned there after receiving supplies in the fall.[25] The Hay River Valley was one area considered to be a good summer hunting and trapping area.[26] By 1805-1806, the Chipewyans and Redknifes traded and hunted as far north as Great Bear Lake and at new posts in the Mackenzie Valley. Both Wentzel and Mackenzie indicated that by this time the Slavey Indians were pushed away from Great Slave Lake and the richer beaver areas of the upper Mackenzie Valley by the aggressive more proficient Chipewyan and Redknife hunters.[27]

The growth of posts along the lower Peace River, in the early 1800s, probably led to the extension of the fur trade into the Hay River Valley particularly from Fort Vermilion although there are no direct references to this fact until 1807.[28]

The North West Company Post at Hay River

Alexander Mackenzie, in his journal August 8, 1806, outlined the process of establishment of the North West Post on the Hay River:

> encamped at Hay River at 6 o'clock in the evening I understand there is an establishment making up this River. One clerk, three men, and one Enterpreter for the Chipewyans which ought to have been made

> last fall its not being done was at
> least thirty packs lost to the North
> West Company. 29

The reference to an interpreter indicates the importance of the Chipewyans in the trapping of the Hay River area and the loss of "thirty packs" reaffirms the richness of the fur resources reported by Grand Blanc. The location of the post was not at the mouth of the river but at some point upstream near the rich trapping areas. Although the location is not precisely known, the post was most likely built on the bank of the Hay River near the junction with the Meander River.[30] There it would be situated on a short overland route to Fort Vermilion and routes led west and south along the upper tributaries of the Hay River. The beaver lodges in the small tributaries, caribou on the slopes of Caribou Mountain, and bison and other large game animals in the parkland of the upper Hay River Valley were close at hand.

The post consisted of a trade store, men's houses, and a trader's house surrounded by a palisade.[31] It was built on the west bank of the river close to water level and probably given some protection by the banks of the meandering river. The river bank site gave ready access to fresh water, fish, and a summer transportation route along the river.

The number of furs traded in the summer of 1807 indicate the wealth of the area and the importance of the summer hunt. During the month of May, six packs were traded and by October 13, 32 packs had been traded. These 32 packs were equivalent to the total predicted for the year 1805-1806 by Mackenzie; so it was possible that the total for 1807-1808 amounted to over 60 packs. In the years 1817-1818 and 1818-1819, 54 packs and 50 packs respectively were traded.[32] In 1819, William MacIntosh, a trader at Fort Vermilion with over thirteen years service in the area, considered the Hay River Post to be a "valuable establishment ... a place which yields two thousand odd Beaver ... with a handsome proportion of other fur".[33] The production of Hay River compares favorably with other locations. The total production in the Mackenzie Valley from 1809 to 1815 declined from 170 to 64 packs.[34] This region included not only the Mackenzie Valley but also the Liard Valley and Great Bear Lake.

Food supplies were also plentiful. In the summer of 1807, fish for men and dogs were frequently caught in the Hay River. Beaver, fish, and game at times became so abundant that it could not be traded because of the difficulty of drying all of it. Suitable meat was traded or caught by the fort hunters for making pemmican. Smith commented on the success of the summer hunt and the Chipewyan hunters:

> The Montagniers (Chipewyans) this summer it seems has been determined to weep of (wipe off) an old blemish to the Chipewyans, it was generally said that they were so exceedingly found (fond) of fatt, they never could bring any to the different Posts of Slave Lake and Athabaska, however it is plainly proved that when the Chepeweans doe not make both Skins and Provisions it is the fault of the Country they are in, and not owing intirely to theire owen indolence we having at Present in Store 32 Packs and 70 Peices of Provisions 33 of which is Grease.[35]

The abundance of provisions in the area is supported by the fact that this area of the Hay River Valley provided food supplies for Fort Vermilion on a regular basis from the 1820s to the 1870s.[36]

Chipewyans, Beaver, Slavey and possibly an occasional Iroquois traded at the Hay River Post. In the fall of 1807, at least 45 Chipewyans and about 20 Beaver were given credit before they departed on their winter hunts. Many of the Chipewyans had to be persuaded by gifts and better trading arrangements to remain in the region in spite of the good food and fur supplies. Some wished to return to their traditional homelands and possibly trade at Fort Churchill. No reference was made by Smith to either Redknifes or Slaveys trading at Hay River at this time. It would appear that by this time the Slaveys inhabited the area between the western edge of the Hay River Basin and both the Liard and Mackenzie River Valleys. Their main trading posts were at the Fort of the Forks (Fort Simpson) and Fort Nelson. After the destruction of Fort Nelson in 1812-1813 and the closure of the Mackenzie River posts in 1815,[37] some Slaveys traded at the Hay River post and were encouraged to do so in the succeeding years.[38]

The situation of the Hay River post was somewhat extraordinary when compared with other posts of the North West Company and its transportation routes (Fig. 10). Hay River did not lie on a main transportation river like Fort Vermilion and Fort Nelson, nor at a main river focal point like

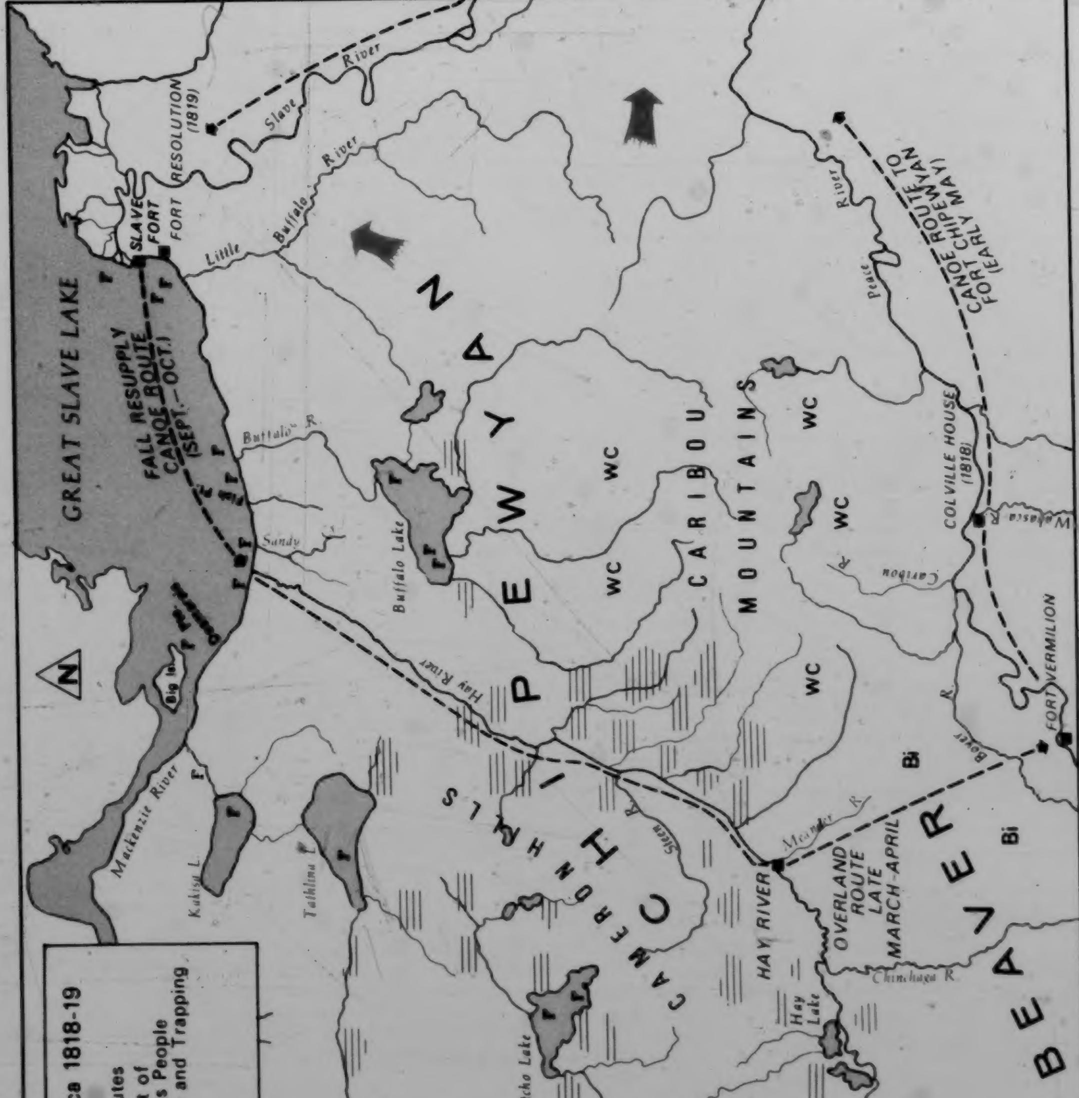

HAY RIVER AREA Circa 1818-19
Fish Sites
WC Caribou
Beaver
Bi Bison
Trade Routes
Movement of Indigenous People for Trade and Trapping
50km
GREAT SLAVE LAKE
FALL RESUPPLY CANOE ROUTE (SEPT.-OCT.)
SLAVE FORT
FORT RESOLUTION (1819)
Slave River
Little Buffalo River
Buffalo R.
Sandy
Buffalo Lake
Big Is.
Mackenzie River
Kakisa L.
Tathlina L.
Trout Lake
Bistcho Lake
Hay Lake
Hay River
Petitot River
Meander R.
Steen R.
Chinchaga R.
Caribou R.
Wabasca R.
Peace River
Boyer R.
CHIPEWYAN
CARIBOU MOUNTAINS
CAMERON HILLS
SLAVE
SLAVE
BEAVER
HAY RIVER
OVERLAND ROUTE LATE MARCH-APRIL
COLVILLE HOUSE (1818)
FORT VERMILION
CANOE ROUTE TO FORT CHIPEWYAN (EARLY MAY)
WC
Bi
N

Figure 10

Slave Fort and Fort Chipewyan, but on a small shallow north-flowing river with large falls and rapids. Although the river broke up in early May, it led to Great Slave Lake which was often covered with ice until mid June. Added to these difficulties was the fact that the shallow river often froze over early in the fall.[39] In the fall, freighter canoes carrying heavy trade goods and supplies followed the circuitous route from the regional headquarters at Fort Chipewyan via the Slave River, the stormy south shore of Great Slave Lake, and up the Hay River portaging around the two falls.

In early spring, the compact fur packs were dispatched overland to Fort Vermilion to take advantage of early open water on the Peace River. The Peace River at Fort Vermilion is normally ice free before May 3 and, therefore, brigades could leave for Fort Chipewyan and southern waterways almost a month and a half before the Mackenzie route opened.[40] The overland trail of about 128 km (80 mi) followed level or gently rolling terrain along the Meander and Boyer River Valleys covered with light spruce and poplar woodland and large sections of open prairie.[41] This journey was made early enough to catch the Peace River brigade, but late enough to trade with the Indians wintering in the Hay River Valley trapping beaver in prime pelt condition. In order to arrive at Fort Vermilion on time, the latest one could travel was April. By April, snow cover had rapidly deteriorated and dog sleigh travel was replaced by slower back packing.[42] Dog sleighs were possibly used by Smith in 1807.[43]

Both dog sleighs and horses used this route to bring provisions from the Hay River Valley to Fort Vermilion between the 1820s and 1870s. A round trip took approximately 10 days.[44] The open prairie provided feed for the horses and often snow free passage in the fall. Horses were utilized in the Peace River Valley perhaps as early as 1820 and Beaver Indians traded horses with Slaveys in the 1860s.[45] The northern end of this trail to the junction between the Hay River and Meander River became known as the "Horse Tracks" signifying the common use of horses up to this point. By the early twentieth century, the trail was improved to a wagon road and would subsequently form part of the Mackenzie Highway route.[46]

The location of the Hay River post on the difficult route combining both canoe and overland travel led to high transportation costs. However, the post's situation within the Beaver Lands and its relatively high production tended to offset these costs. Other trading posts such as those on the Mackenzie River were more distant from southern routes and in less productive areas. As a result, the Hay River post appears to have remained in continuous occupation from 1807 to 1820 although other posts were closed down.[47] The fact that it was not one of the posts abandoned, despite its situation away from regular lines of communication, suggests that it was a prosperous and well established post. Also, the fact that the Hudson's Bay Company tried to build a rival post close by for several years starting in 1815[48] suggests that the Hay River area and the North West Company post located at the center of the Beaver Lands were important to the fur trade.

During the final years of conflict between the North West Company and Hudson's Bay Company, a disastrous but accidental gunpowder explosion destroyed Hay River post in the summer of 1818.[49] The attempts to rebuild the post demonstrate the problems of its situation within the trading route network. By early November only the new trader, six men, and a few pieces of trade goods had reached the post because the canoes had been caught in ice on Great Slave Lake. They had travelled overland for almost a month. By this time, most of the resident Chipewyans had left the area to seek supplies at Slave Fort. The only trade which took place was with the Slavey Indians who had been encouraged to come to the Hay River post after the close of the Mackenzie River posts. These Indians were unaware of the disaster and on arrival traded their furs but did not receive the extra supplies which normally encouraged them to continue their trading.[50]

Sufficient supplies were not sent in the fall of 1819 despite the fact that Hay River was considered one of the best posts especially during the summer and that a lack of effort would possibly enable the Hudson's Bay Company to takeover the area. The Chipewyans left for Slave Fort and Fort Chipewyan to trade.[51] The Slaveys returned to the posts of the Mackenzie and Liard Valleys which were established between 1818 and 1821.[52] In the spring of 1820, the Hay

River post closed after fourteen years of operation.

In spite of transportation difficulties, the post at Hay River was initially successful in exploiting the resources of the valley because of its central location in the valley. Its continuation throughout the 1810s was helped by the unrest in the Mackenzie River area which reached a peak in 1815 when the posts of that region were abandoned. Hay River became the closest trading post for the Slavey Indians of the Liard and Mackenzie River Valleys. The demise of Hay River resulted from not only its transportation difficulties but also from other problems as well - the disastrous explosion, the lack of trade goods, dispersal of fort hunters and trappers, the re-establishment of other posts on traditional waterways, and redeployment of manpower during the final stages of competition between the North West Company and the Hudson's Bay Company. The closure of the Hay River post occurred only one year before the union of the two companies in 1821.

Hudson's Bay Company Attempts to Establish a Post in the Hay River Valley

Despite the early explorations of the eighteenth century, direct contact by the Hudson's Bay Company with the people of the Athabasca and Mackenzie River Valleys followed slowly in the wake of the Montreal traders. Explorations by Philip Turnor and Peter Fidler in the 1790s and attempts to establish posts at the beginning of the nineteenth century failed to gain a foothold in the region.[50] In the summer of 1815, the Hudson's Bay Company once again entered the region to compete with the North West Company. This coincided with the retreat of the North West Company from the Mackenzie Valley as a result of threats of violence by local Indians and poor fur returns. During the next six years, there were several unsuccessful attempts to establish a post on the Hay River to rival the one set up by the North West Company in 1806.

By the late 1810s, the Hudson's Bay Company had knowledge of the water and land routes into the Hay River Valley and were aware of its high potential for the production of beaver and other fur bearing animals.[54] However, the company was unable to enter the area until it had established suitable staging points on the Peace River and on Great Slave Lake. Not only would these two natural routes give access to the Hay River, but they would provide food, bison, moose, and caribou in the Peace River Valley and whitefish, trout, and inconnu from Great Slave Lake.

Attempts to establish posts on these two routes by John Clarke in 1815 and 1816 failed because of lack of nets, shortage of food supplies, and harassment by the North West Company.[55] In 1818, Clarke returned with considerable supplies and built posts on the Peace River at the junction with Loon River (Colville House) and Smoky River (St. Mary's River).[56] The post built at Great Slave Lake was unsuccessful. However, in the following summer, Robert McVicar succeeded in building Fort Resolution a few kilometers west of the Slave River delta and only 100 km (63 mi) from the mouth of the Hay River.[57] Colville House, which was completed in 1819, lay only five or six days march overland from Hay River.

In spite of the disarray at Hay River post caused by the gunpowder explosion, the Hudson's Bay Company was unable to take advantage of the difficulties experienced by the North West Company. Some hunters were sent from Fort Resolution towards Buffalo Lake and Hay River in the fall of 1819[58]; but the Hudson's Bay Company chose to use the overland route from Colville House to establish a post on the Hay River. This involved the transport of heavy trade goods in the fall as well as the fur packs in spring. They failed to estabish their post in the fall of 1819 because of the lack of trade goods.[58] In the following year, they failed again because of the lack of provisions. Extremely mild weather and poor snow conditions prevented efficient hunting and the fishing at Loon Lake failed.[60] By this time, 1820, the North West post on the Hay River was abandoned; therefore, the need to compete no longer existed.

After the union of the two companies in 1821, the Hudson's Bay Company attempted for two years to build a post at Hay River because of the plentiful fur resources.[61] However, unrest among the Chipewyan Indians associated with the former post prevented its re-establishment in 1823.[62] Accordingly, these Indians living in the Hay River area traded with the posts on the major rivers surrounding it, that is, at Fort Liard, Fort Simpson, Fort Resolution, and Fort Vermilion. No further attempt was made to build a post in the Hay River area until the 1860s.

Summary

In the precontact period, the Hay River area probably was occupied by Slavey and Beaver Indians whose traditional lifestyle consisted of hunting and gathering. These people were restricted in their movement and concerned with the daily task of providing a livelihood. Locations for the small temporary camps would be related to the efficient use of the resources of the area. Most camps would be located near lakes which would provide a secure supply of fish, a basic part of the diet.

With the expansion of the fur trade in the eighteenth and nineteenth centuries, knowledge of the Hay River area and its potential importance grew by direct and indirect contact. Indigenous people became drawn into the fur trade. The Chipewyan Indian of the transitional forest and "Barren Lands" became actively involved in the trade and moved south and west into the "Beaver Lands" of the Great Slave Lake and Athabasca Lake area. Redknife (Yellowknife) Indians from northeast of Great Slave Lake occasionally visited the Hay River valley.

These two groups of Indians spread their influence in the fur trade as far north as Great Bear Lake, the Mackenzie and Liard River Valleys as well as the Hay River area. Thus, the Hay River area which had apparently been occupied by

Slavey and Beaver Indians in the precontact period became the trapping territory of Chipewyans and a few Redknifes on a seasonal basis and later on a permanent basis. The Slaveys apparently moved westward under the pressure and became concentrated in the Liard and Mackenzie River Valleys. The Chipewyans who moved into the Hay River area modified their traditional lifestyle becoming less migratory because of the abundance of beaver and available food supplies.

From the information of the indigenous peoples and that gained by the explorations of the fur traders, a knowledge of the geography of the Hay River area developed directions and conditions of river and land routes, distribution and value of fur bearing animals and food resources, seasonal weather conditions, and lifestyle and distribution of local population groups. The resources of the area were exploited in spite of the difficulties of entry into the area, but traders used the situation of Hay River between the northern Great Slave route and the southern Peace River route to the greatest advantage. The longer northern water route was used in the fall to transport heavier trade goods and the shorter overland route to the Peace River in spring to enable fur packs to reach the southbound brigades. The Great Slave Lake froze over relatively late in the fall and the north flowing Peace River broke up early in spring. These advantages of the major routes were offset by local conditions, the shallow water, ice, and waterfalls on the Hay River in fall and the vagaries of spring weather and snow conditions on the overland route to the Peace River.

In spite of these difficulties of situation, the Hay River Valley was actively occupied by the North West Company and later sought after by the Hudson's Bay Company because of the plentiful beaver resources. With the abandonment of the Mackenzie River posts by the North West Company in 1815, the Hay River post gained added importance because it was the closest post for the Indians of that region.

The closure of the North West post and the reassessment of the concern of the Hudson's Bay Company for a trading center in the Hay River area relate to the changing situation factors - the re-establishment of the Mackenzie River posts, difficulties of getting supplies because of weather conditions and the movement of Indian hunters. These factors were associated with very specific local events such as the destruction of the trading store and its supplies in 1818, which led to local discontent, and the inadequate staffing resulting from the pressure of competition in the final years before union.

The site of the Hay River post, on the river bank, provided fresh water, food, transportation and some degree of protection from hostile Indians. The specific location of the post is not known; but it was most likely near Meander River in good beaver country, close to moose, caribou, and bison. In this location, it would have been well situated with respect to the overland route to Fort Vermilion and at a focal point where converging routes met.

In 1820, the North West Company post at Hay River closed after fourteen years of occupancy. Within the new monopoly of the fur trade under the control of the Hudson's Bay Company, the role of the post was reassessed and, although, the area continued to be of importance its fur resources were exploited by trading posts situated outside the valley and the post remained closed.

Footnotes

[1] Jenness mapped the distribution of tribes for 1725 A.D. when there was only a little indirect contact between fur traders and the Indians of the Mackenzie River system. But Osgood mapped the distribution according to the date of first contact and therefore there are some differences and more detail in the mid Mackenzie Valley. The term tribe and the names give to each tribe were not used by the Indians but by the fur traders, explorers, scientists, and Indians from other regions. The indigenous people used distinctive names for local groups of people. Diamond Jenness, "Tribes of the Mackenzie and Yukon Basins," Chapter 23, The Indians of Canada, 6th Edition, National Museum of Canada, Bulletin No. 65, Anthropological Series No. 15 (Ottawa, 1963): pp. 377-404; Cornelius Osgood, "The Distribution of the Northern Athapaskan Indians," Yale University Publications in Anthropology, No. 33 (New Haven, 1946); Pliny Earle Goddard, "The Beaver Indians," Anthropological Papers, No. 10 (New York: American Museum of Natural History, 1917): pp. 208-21. The Handbook of North American Indians, Vol. 6, Subarctic provides individual studies of all groups within the Mackenzie River system including Michael Asch, "The Slavey Indians," pp. 338-49 and Robin Ridington, "Beaver," pp. 350-60.

[2] The "Barren Lands" are the essentially treeless tundra lying northeast of Great Slave Lake.

[3] Asch, 1981, p. 339.

[4] J. Colin Yerbury, "Protohistoric Canadian Athapaskan Populations: An Ethnohistoric Reconstruction," Arctic Anthropology, 17,2 (1980): pp. 27-30; J. Colin Yerbury, "On Cultural Contact in the Mackenzie Basin," Current Anthropology 18 (June 1977): pp. 350-52. The work of Yerbury has been criticised by Helm, June Helm. "On Responsible Scholarship on Culture Contace in the Mackenzie Basin," Current Anthropology 19 (March, 1978) pp. 160-62.

[5] PAC, Church Missionary Society (Abbrev. CMS), MG17,B2, C.1/O, Apprendix B, No. 767 (PAC Reel A103), W.D. Reeve, Journal of Journey to Trout Lake Indians, 1878.

[6] Goddard, 1917, p. 208.

[7] Ridington, 1981, p. 359.

[8] E.E. Rich, Hudson's Bay Company 1670-1870, Volume 1: 1670-1763 (Toronto: McClelland and Stewart, 1960): p. 255.

[9] Ibid., Volume 2: 1763-1820, pp. 47, 57: Beryl C. Gillespie, "Territorial Expansion of the Chipewyan in the 18th Century," Proceedings: Northern Athapaskan Conference 1971, vol. 2, National Museum of Man, Mercury Series, Canadian Ethnological Service Paper, No. 27 (Ottawa, 1972): p. 368.

[10] J.G. MacGregor, Peter Fidler, Canada's Forgotten Surveyor 1769-1822 (Toronto: McClelland and Stewart, 1966): p. 151.

[11] Samuel Hearne, A Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean 1769-1777-1771-1772 editor Richard Glover (Toronto: Macmillan Co. of Canada, 1958): pp. 21, 168-69; Gillespie, 1971, pp. 352-353, 371-372. The traditional view proposed that the Athapaskans were pushed west and north by the Cree. Gillespie argued that the Chipewyans moved south and came in contact with the Cree. She did not indicate that the Chipewyan also advanced west into territory traditionally considered to be occupied by Slavey Indians.

[12] E.E. Rich, The Fur Trade and the Northwest to 1857 (Toronto: McClelland and Stewart, 1967), passim Chapters 8-10; Harold A. Innes, "Peter Pond and the Influence of Capt. James Cook on Exploration in the Interior of North America, "Transactions Royal Society of Canada, Section II, 1928: pp. 136-37. James MacPherson Parker,"The Fur Trade of Fort Chipewyan on Lake Athabasca, 1778-1835," (M.A. thesis, University of Alberta, Edmonton): pp. 4-9.

[13] W.K. Lamb, editor, The Journals and Letters of Sir Alexander Mackenzie (Toronto: Macmillan Co. of Canada, 1970): pp. 429, 431, 433; J.N. Wallace, The Wintering Partners on Peace River (Ottawa: Thorburn and Abbot, 1929): pp. 12-13. In 1788 12500 Made Beaver (Abbrev. MB) of furs were collected from the Peace River area and this amounted to 3/4 of the Athabasca trade. The Peace River area provided bison and other large game animals for making pemmican (pounded meat) and dried meat for summer travel.

[14] Posts were built by Grant and Leroux at the mouth of the Slave River in 1786 to trade with Redknife (Yellowknife)

and Slavey Indians. Leroux traded with these Indians on the north shore of Great Slave Lake in 1786, spring 1789, and fall of 1789 when he built a post at Fort Providence near Yellowknife Bay. Mackenzie called the river named after him "River of Dissappointment", it was also called the Great or Grande River by fur traders and local Indians; Alan Cooke and Clive Holland, The Exploration of Northern Canada 500 to 1900 A Chronology (Toronto: Arctic History Press, 1978): pp. 106-10.

[15] Henry R. Wagner, Peter Pond Fur Trader and Explorer (New Haven: Yale University Library, 1955), map no. 3; Lamb, 1970, A Map of Mackenzie's Track from Fort Chipewyan to the North Sea in 1789.

[16] Araubascha is a Woods Cree word descriptive of grassland areas such as the Peace-Athabasca Delta and the Hay Lake area. The use of this term by Pond indicated that he was well aware of the natural environment of the area, Beryl C. Gillespie, "Territorial Groups Before 1821: Athapaskans of the Shield and Mackenzie Drainage," The Handbook of North American Indians, vol. 6, p. 168, note 18.

[17] "Notice Regarding the Map of Mackenzie's River by Mr. W.F. Wentzel of the North West Company, Wernerian Natural History Society, Memoirs, 1821-22, vol. 4 (Edinburgh, 1822): pp. 562-63, folded map.

[18] Details shown may have come from his cousin Roderic and other North West Company employees in the 1790s.

[19] Peter Fidler spent the winter of 1791-92 with Chipewyans in the Slave and Little Buffalo River area and met no other groups of Indians, see Fidler's Journal in J.B. Tyrrell, Journals of Samuel Hearne and Philip Turnor (Toronto: Champlain Society, 1934). In 1788 Alexander Mackenzie indicated that the Chipewyans were preventing Slavey and other groups coming to Great Slave Lake; see Lamb, p. 431. With the reopening of Slave Fort in 1791 Mackenzie indicated that the martens of the Slavey were not important and that the Redknifes could act as carriers if they did not want to come to Slave Fort; see Lamb, p. 444; the Chipewyan "English Chief" acted as a middleman in the Mackenzie Valley for local groups of Beaver or Slavey; see Lamb, pp. 223, 230-31.

[20] See Figure 9 for dates of opening of new posts. For details of expansion of trading posts in the Mackenzie Valley see J.K. Stager, "Historial Geography of the Mackenzie River Valley," (Ph.D. thesis, University of Edinburgh, 1962); for Great Slave Lake area see George R. Rae, "The Settlement of the Great Slave Lake Frontier, Northwest, Canada, from the Eighteenth to the Twentieth Century," (Ph.D. thesis, University of Michigan, Ann Arbor, 1963). For an account

of the Hudson's Bay Company posts in the area, at this time see MacGregor, Chapter 8, "Facing the Northwesters, Chipewyan 1802-1806, pp. 143-161; also check with Cooke and Holland for specific years.

[21] McGill University Library, CH174 S156, John Thomson, diary entry October 7, 1800; CH180 S162, Alexandra Mackenzie, Great Bear Lake Journal 1805-6, diary entry September 23, 1805. Mackenzie, the nephew of Sir Alexander Mackenzie noted seeking shelter from high swells and head winds for 15½ hours in the West Channel of the Hay River. The Hay River was sometimes called the Riviere au Foin. The Slavey name is K'atł'odehe. The name describes the meadows which were found in the delta and also in the upper parts of the valley.

[22] PAC, MG19 C1, vol. 6, James Porter, diary entry March 19, 1800, the Chipewyan trading Chief, Cheenalize, was called Grand Blanc or White Fish (December 15, 1800). On his return from Hay River, he and 40 followers received 1400 skins in credit and sold at least "314 Pluis of Different Peltries Value of 41 skins of Pack Cord and 45 of Castorium" (March 12, 1800). These amounts all indicate the rich resources of the area. The term "trench" refers to the process of hunting beaver by breaking into lodges or setting traps under the ice which required iron tools. The Slave Mountain probably refers to the Cameron Hills. The use of the name indicated the association of the Slavey Indians with the area.

[23] Information regarding this migration is found in the journals of Porter, Mackenzie, Swain and Wentzel covering the period 1800-1806, University of Toronto, Rarebook Collection, Thomas Swain, Journal Mansfield House Peace River, Nottingham House Athabasca, Chiswick House Slave Lake 1802-4; McGill University Library, CH25 S61, Willard Ferdinand Wentzel, Journal Kept at Slave Lake, Summer 1802; PAC, MG19 C8, Willard Ferdinand Wentzel, Journal Kept at the Grand River, Winter 1804-5, MG19 C8, pp. 9298-9308, Willard Ferdinand Wentzel, Journal of Wentzel Grand River-Mackenzie River, 1805-6.

[24] PAC, MG19, C1, vol. 6, James Porter, April 3, 1800, wrote that he gave presents and tobacco to successful hunters to persuade them to return from the "Carribou Country" to go to the "Beaver Country".

[25] McGill University, Wentzel Journal at Slave Fort, August 25, 1802, indicated a large number of Chipewyan and Redknifes to Hay River; University of Toronto, Swain Journal October 11-12, 1803,"40 Redknifes return to Beaver Country."

[26] University of Toronto, Rarebook Collection, North West Co., Papers, Ms. Collection 77, E. Smith, Journal of Hay River Establishment April-October 1807, October 13, 1807.

[27] Mackenzie noted that Redknifes and at least one Chipewyan traded at Bear Lake (McGill University Library, CH180 S162, October 5, 1805, June 8, 1806, June 16, 1806). He also claimed that the Slaveys were pushed away from Great Slave Lake by Cree (June 16, 1806) but both he and Wentzel (PAC, MG19, C8, vol. 24, pp. 9298-9308) indicated that the establishment of posts in the Upper Mackenzie by Slave Fort personnel would push the Slaveys farther down river (Mackenzie, July 10, August 6-7, 1806; Wentzel, September 14, 1806).

[28] Iroquois hunters from Montreal were hired in large numbers by both the North West Company and the XY Company and some were hunting in the Hay River Valley in 1807. Trudy Nicks, "The Iroquois and the Fur Trade in Western Canada, Third North American Fur Trade Conference, Winnipeg, 1978 (Toronto: University of Toronto Press, 1980): pp. 85-101; University of Toronto, Smith Journal, October 12, 1807.

[29] McGill University Library, CH180 S162, Mackenzie, August 6, 1806, a pack of furs weighed about 40 kg (90 lbs).

[30] Smith's journal indicated that a round trip from the Hay River Post to Fort Vermilion took less than 20 days, that the post was about 3 days up river from the last Rapids; Wentzel's 1821 map indicated a post near Hay Lake; Simpson estimated that it was 6 days march from Colville House on the Peace River and 10 days march upstream from Great Slave Lake, E.E. Rich, Editor, Journal of Occurrences in the Athabasca Department by George Simpson, 1820 and 1821, and Report (Toronto: Hudson's Bay Record Society, 1938): pp. 386-7; Wyld's map of North America, dated 1828, shows a Fort Augustus at this location, Alberta Atlas (Edmonton: Government of Alberta and University of Alberta, 1969): p. 49. Meander River has been the location of outposts and independent fur trading posts since 1830s and it would seem likely that these continued to use the site chosen by Smith.

[31] University of Toronto, Smith Journal provided the data for the summer of 1807.

[32] HBCA, F.3/2/fo.177, Joseph G. MacTavish to Proprietors of NW Co. and Angus Shaw, December 22, 1818, F.3/2/fos.214-215, Joseph McGillivray to John MacTavish, May 19, 1818.

[33] HBCA, F.3/2/fo.212, William MacKintosh to Proprietors of NW Co. May 19, 1819.

[34] PAC, MG19, A20, Williard Ferdinand Wentzel, Account of the Mackenzie River with Chart 1821.

[35] University of Toronto, Smith Journal, October 13, 1807. Grease was a name given to animal fat used for mixing with dry or pounded meat.

[36] Quantities of provisions procured at Hay River by Fort Vermilion HBC Post

Year	Pounded Meat	Dry Meat	Grease
1834	1040 kg(2300 lbs)	1040 kg(2300 lbs)	270 kg(600 lbs)
1835	460 kg(1020 lbs)	209 kg(462 lbs)	65 kg(145 lbs)
1846	442 kg(976 lbs)	71 kg(157 lbs)	153 kg(339 lbs)
1857	270 kg(600 lbs)	30 kg(70 lbs)	- -

HBCA, B.224/a/4/fo.9; 5/fo.3d; 10/fo.13; 11/fo.5. Although the productivity of the area appears to decrease over time, it does indicate that it was an important source if journeys of 128 km (80 mi) were taken to collect provisions.

[37] Cooke and Holland; pp. 128, 135.

[38] Wentzel stated that Slavey Indians from the Liard Valley traded at Hay River following the destruction of Fort Nelson, McGill University Library, CH175 S157, Willard Ferdinand Wentzel, Letters from Fort of Forks, Mackenzie River to Roderick Mackenzie, 1807-24, Wentzel to Mackenzie, February 28, 1814; Joseph McGillivray, trader at Hay River in 1818-1819 wrote of this encouragement "...2/3 of Slaves received neither blanket or capot needed to encourage the trade which has been planned over the last two successful years." HBCA, F./3/2/fos. 214-15.

[39] Table II; University of Toronto, Smith Journal, October 11, 1807.

[40] see Allen, and Table II.

[41] A.E. Cameron, "Explorations in the Vicinity of Great Slave Lake, Canada," Canada, Department of Mines, Geological Survey, Summary Report 1917, part C (Ottawa, 1918): p. 22.

[42] The average snow cover for March 31 is 25 cm (10 in) and 0 cm (0 in) by April 30, National Atlas of Canada, 4th Edition, Canada, Department of Energy, Mines, and Resources (October, 1974): pp. 55-56, Snow Cover.

[43] University of Toronto, Smith Journal, in passim, dogs were present at Hay River during the summer of 1807, Smith took about 20 days on his round trip to Fort Vermilion.

[44] HBCA, B.224/a/10/fo.13; 11/fo.4.

[45] HBCA, B44/a/2/fo.4; B.200/b/36/fo.183, John Reid to Robert MacFarlane, November 24, 1868.

[46] Cameron, 1918, p. 22.

[47] Wentzel indicated a reduction of posts from 15 to 8 in the Athabasca including the closure of all the Mackenzie River posts. He charged mismanagement by traders as well as

a decline in beavers and the high cost of transportation, PAC, MG19 A20, Wentzel, Account of the Mackenzie River, 1821, p. 6; Wentzel to Mackenzie, March 6, 1815, in L.R. Masson, Les Bourgeois de la Compagne de Nord Quest (New York: Antiquarian Press, 1960): pp. 114-15.

[48] E.E. Rich, Hudson's Bay Company 1670-1870, Volume II: 1763-1870 (Toronto: McClelland and Stewart, 1960): pp. 333-34, 347-52; Rich, 1938, pp. 386-87.

[49] HBCA, F.3/2/fos. 164-65, George Keith and Sam Black to Proprietors of NW Co. September 8, 1818; F.3/2/fos. 176-77.

[50] HBCA, F.3/2/fos. 176-77, 214-15.

[51] HBCA, F.3/2/fo. 212.

[52] Cooke and Holland, p. 136.

[53] Ibid., pp. 111, 123, 125, 127, 129.

[54] Rich, 1938, pp. 386-87, McVicar, the trader at Fort Resolution, the HBC post near the Slave River Delta, stated that there were still areas near Hay River and Buffalo Lake which had not been visited for some time, HBCA, B.181/a/2/fo. 129.

[55] Wallace, pp. 93-103; HBCA, B.39/z/fo.46; Cooke and Holland, pp. 136-37. Loss of nets in stormy weather led to the failure at Great Slave Lake.

[56] Wallace, pp. 104-6; Loon River or Wabasca River.

[57] Cooke and Holland, p. 141; HBCA, B.181/a/2/fo.20.

[58] HBCA, B.181/a/2/fo.129.

[59] E.E. Rich, Colin Robertson's Correspondence Book, September 1817 to September 1822 (Toronto: Hudson's Bay Record Society, 1939): p. 264.

[60] Rich, 1938: pp. 236-37.

[61] This was part of the policy for closing posts in exhausted areas and opening new ones, R.H. Fleming, Editor, Minutes of Council, Northern Department 1821-31 (Toronto: Hudson's Bay Record Society, 1940): p. xxv; HBCA, B.181/a/3/fo.1.

[62] R.H. Fleming, p. 43, Minutes of Council, July 5, 1823 indicated that Chief Trader Allen McDonell should winter at Hay River but other reports indicated that most Chipewyans were leaving the area and that Hay River was not occupied, HBCA, B.224/e/1/fos.4,7,78.

CHAPTER IV

THE RELOCATION OF THE FUR TRADING POST TO THE MOUTH OF THE HAY RIVER

Despite the fact that many of the Indians who threatened to leave the Hay River area remained, the Hudson's Bay Company did not build a post there until the 1860s. The Hudson's Bay post at Fort Vermilion took on a significant role in serving the Beaver and Chipewyan Indians who hunted in the Hay River area. The company built an outpost camp at the "Horse Tracks" to facilitate trade of furs and provisons in spring and fall.[1] Fort Resolution serviced the Indians who trapped around Buffalo Lake.[2] A new post at Big Island, just above the entrance to the Mackenzie River, also served the Slavey Indians in the upper Mackenzie Valley who frequented the Hay River area.[3] But the main function of Big Island post built in 1847 was to provide food to the Mackenzie River posts and act as a winter refuge for those Mackenzie River personnel whose services were only required during the summer transportation season. These men could not be adequately supported by the river posts in winters.[4] Big Island post was located on the mainland north of Big Island close to the rich fishing grounds at the west end of Great Slave Lake where large quantities of fish were caught and shipped to the river posts in the fall.[5]

Reorganization of the Great Slave Lake Posts

The construction of the Hudson's Bay post at the mouth of the Hay River related to attempts to alleviate problems of provisioning, to increase accessibility to posts, and to compete with "free traders"[6] in the Great Slave Lake and upper Mackenzie River area between Slave River and Fort Simpson.

The Hudson's Bay Company made Fort Simpson its regional headquarters for the Mackenzie District because its location at the junction of the Liard and Mackenzie Rivers gave it a central postion within the Mackenzie Valley and access to routes leading into the Western Cordillera. However, because of its large staff and lack of adequate game and fishing, it had to rely on the Big Island post for support. In the late 1860s, a new site on the north bank of the Mackenzie River 50 km (30 mi) below Big Island was considered more suitable for provisions. It was also closer to the opposing "free traders" who were moving north[7] but lacked sufficient wood for construction or fuel and, to compound the difficulties, the best ground had already been occupied by the Roman Catholic Mission, Nôtre-Dame de la Providence in 1861.[8] Although Fort Simpson remained in its original location, a small new post, Fort Providence, was built beside the Roman Catholic Mission in 1868 to replace the Big Island trading post.[9] This new location allowed for easier access to Indians at Hay River, Trout Lake, and Little Lake. Rough water and broken ice conditions often prevented Indians from reaching Big Island post in order to meet the outgoing and incoming brigades in spring and fall. Big Island post remained as an important fishing station.

Hudson's Bay Company officials, in the late 1860s, also discussed the abandonment of Fort Resolution because of the inability of the post to provide provisions for the general use of the company.[10] The large number of families at the post, the reduction in numbers of hunters by sickness and death, and the increase of trade by local Indians at Salt River up the Slave River instead of at Fort Resolution placed a burden on the acquisition of provisions.[11] A proposed solution to this problem was to open a post at the eastern end of Great Slave Lake and another at Hay River while strengthening the Salt River post. The first post would provide caribou hunted on the "Barren Lands".[12] Salt River would be close to the bison range and be a first line of defence against "free traders".[13] A post at the mouth of the Hay River, which was only 70 km (44 mi) away from Buffalo Lake, could be used by those people who resided there but normally traded at Fort Resolution.

The abandonment of Fort Resolution was opposed by Roderick MacFarlane, Chief Factor, Mackenzie District for several reasons including the opinion that the Buffalo Lake Indians would not trade at Hay River because of the lower "R" (Mackenzie River) tariff, that the post at the eastern end of the lake was in a poor fur area, and that the abandoned buildings at Fort Resolution would give added opportunity to "free traders".[14] Although Fort Resolution remained open, both the

Hay River post and that at the eastern end of the lake were established but with limited possibility of success.

The incursion of "free traders" into the Athabasca and Mackenzie Districts gradually weakened the trade monopoly of the Hudson's Bay Company. The "free traders" that entered the Great Slave Lake area in the 1860s came from the headwaters of the Peace River in British Columbia. Large numbers of miners and traders moved northwards through British Columbia during the 1850s and 1860s to the gold fields of the Fraser River, Cariboo, upper Peace River, and Omineca Mountains.[15] From the headwaters of the Peace River, miners and small time traders worked their way northwards to Lake Athabasca and the Slave River. Thousands of miners reached the upper Peace River and the Hudson's Bay Company was fearful that a large influx of nonnative trappers, miners, and traders would disrupt its trade with the Indians and destroy its monopoly. The miner and trader McQuesten wintered near Fort Vermilion in 1864 and most likely traded at Salt River in 1866.[16] "Free traders" also operated near Fort Chipewyan in 1865-67 bringing in supplies from Fort St. John, British Columbia, and from Red River via Lac La Biche (Fig. 11).[17]

To oppose these "free traders", the Hudson's Bay Company gave added manpower to Fort Resolution, offered higher fur prices, tried to persuade Indians to return to their own lands, and proposed to build a post at Hay River if the "free traders" should use the valley to reach the Mackenzie River

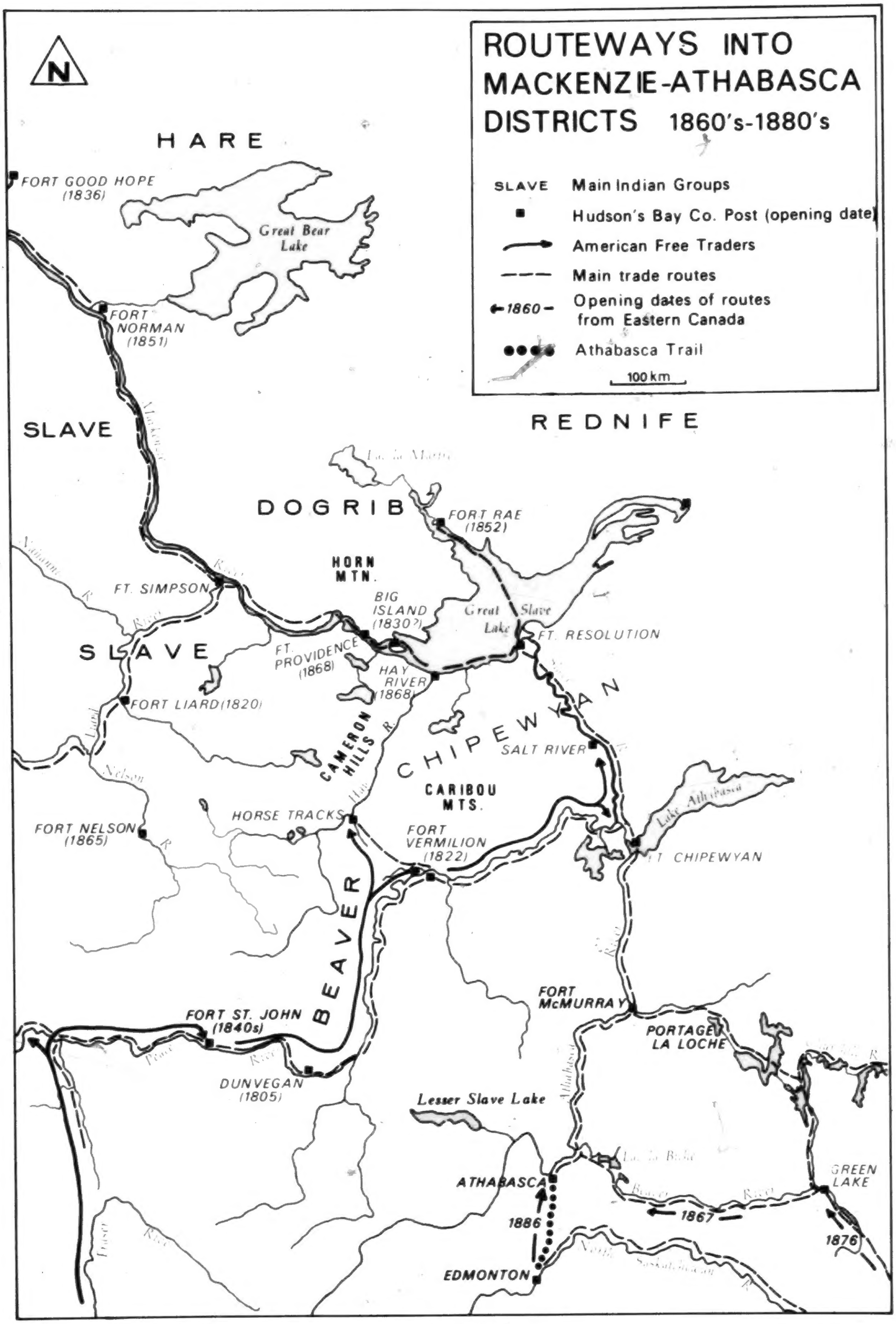

ROUTEWAYS INTO MACKENZIE-ATHABASCA DISTRICTS 1860's-1880's
N
SLAVE Main Indian Groups
■ Hudson's Bay Co. Post (opening date)
American Free Traders
Main trade routes
←1860– Opening dates of routes from Eastern Canada
●●●● Athabasca Trail
100 km
HARE
FORT GOOD HOPE (1836)
Great Bear Lake
FORT NORMAN (1851)
Mackenzie
SLAVE
REDNIFE
Lac la Martre
DOGRIB
FORT RAE (1852)
HORN MTN.
BIG ISLAND (1830?)
Great Slave Lake
FT. RESOLUTION
FT. SIMPSON
River
Nahanni R.
River
SLAVE
FT. PROVIDENCE (1868)
HAY RIVER (1868)
FORT LIARD (1820)
Liard
CAMERON HILLS
Hay R.
CHIPEWYAN
SALT RIVER
Slave R.
Nelson
FORT NELSON (1865)
R.
HORSE TRACKS
CARIBOU MTS.
FORT VERMILION (1822)
Lake Athabasca
FT. CHIPEWYAN
BEAVER
River
FORT McMURRAY
FORT ST. JOHN (1840s)
Peace
River
DUNVEGAN (1805)
PORTAGE LA LOCHE
Churchill R.
Lesser Slave Lake
Athabasca
Lac la Biche
ATHABASCA
Beaver
River
GREEN LAKE
1867
1876
1886
Fraser
River
North Saskatchewan
R.
EDMONTON

Figure 11

Valley from the Peace River. William L. Hardisty stated August 16, 1867:

> I am in hopes that I shall be able to chase the Hay River Indians towards Trout Lake which is a much better Marten Country and nearer Big Island . . .. In the meantime as the American Traders seem to have chosen the main route by Peace and Slave Rivers into the Mackenzie River District it may be time enough to build at Hay River when the Traders go there. 18

Hay River Post 1868-1878

Following the closure of Big Island post, and in spite of the uncertain future of Fort Resolution, John Hope was sent to Hay River to construct a trading post in September 1868. This post served as an outpost under the supervision of John Reid at Fort Providence.[19]

The post took over some of the trading function of Big Island post, now reduced to a fishing station. It was also to trade with the Buffalo Lake Indians if Fort Resolution closed down. Its other function was to oppose any "free traders" who entered the Hay River Valley from the Peace River to trade with Beaver, Chipewyan and Slavey Indians, and who might use the valley as a short overland route to gain access to the Mackenzie River Valley.

Situation

The new Hay River post at the mouth of the river on Great Slave Lake lay 225 km (140 mi) north of the original North West Company post and the site proposed by the Hudson's Bay Company in the late 1810s (Fig. 12). Midway between Fort Resolution at the mouth of the Slave River and Fort Provi-

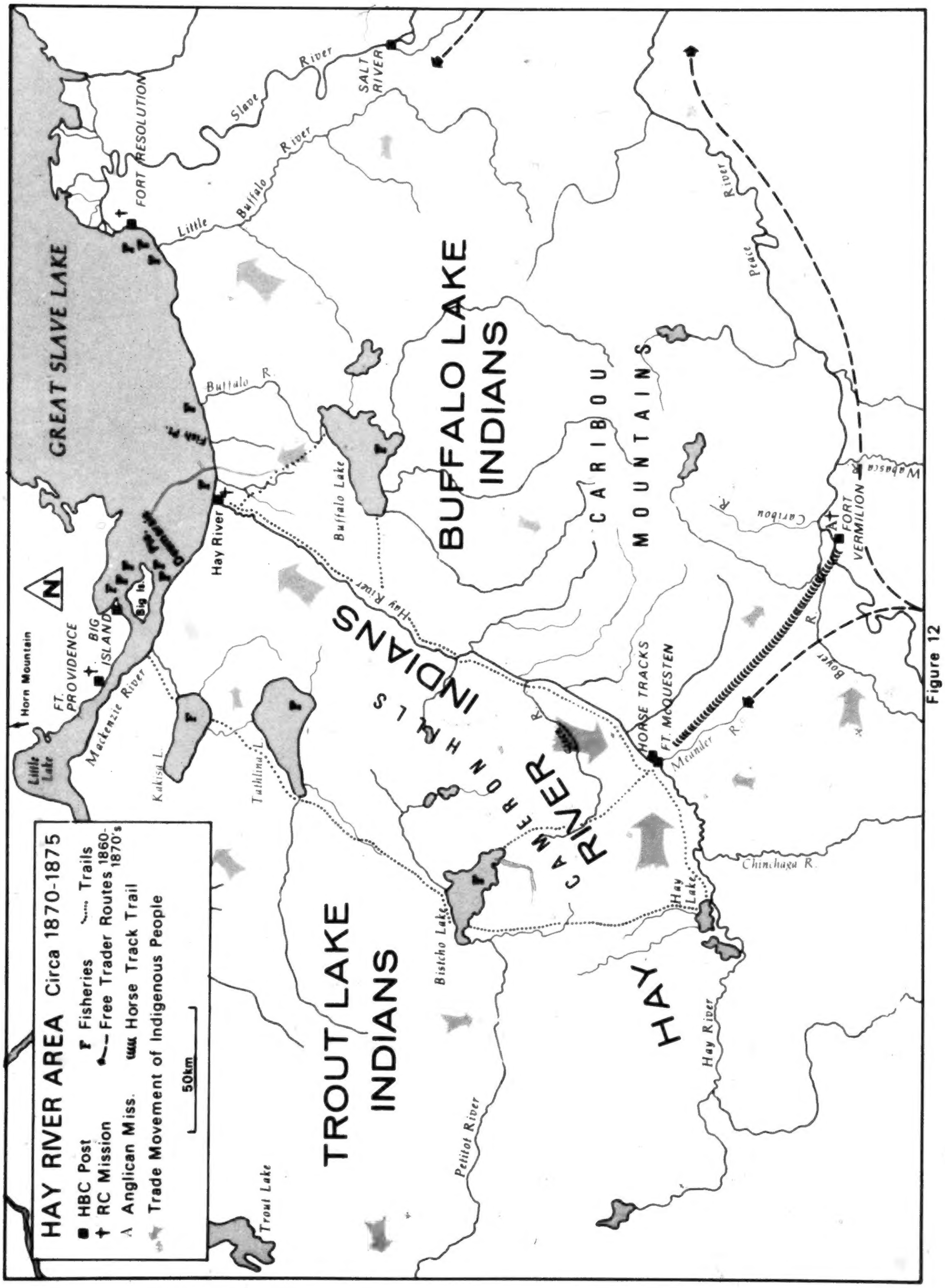

HAY RIVER AREA Circa 1870-1875
HBC Post
RC Mission
Anglican Miss.
Trade Movement of Indigenous People
Fisheries
Free Trader Routes 1860-1870's
Trails
Horse Track Trail
50km
GREAT SLAVE LAKE
FORT RESOLUTION
Slave River
SALT RIVER
Little Buffalo River
Buffalo R.
Fish P.
Hay River
Big Is.
BIG ISLAND
FT. PROVIDENCE
Horn Mountain
Little Lake
Mackenzie River
Kakisa L.
Tathlina L.
Buffalo Lake
BUFFALO LAKE INDIANS
CARIBOU MOUNTAINS
Peace River
Wabasca R.
Caribou R.
FORT VERMILION
Boyer R.
HORSE TRACKS
FT. McQUESTEN
Meander R.
Chinchaga R.
Hay Lake
CAMERON HILLS
HAY RIVER INDIANS
Bistcho Lake
TROUT LAKE INDIANS
Petitot River
Trout Lake
Hay River

Figure 12

dence at the entrance to the Mackenzie River, a total distance of 240 km (150 mi), Hay River continued to provide a sheltered harbor for canoes and larger York boats[20] travelling along the exposed south shore of Great Slave Lake to and from the Mackenzie River. The lake side position of the post gave it ready access to the fish resources, particularly in the fall, at Buffalo River, Fish Point, Hay River, Pointe de Roche, and Pointe Desmarais. Hay River was only 65 km (41 mi) from the reliable winter fishery at Big Island.[21]

Although well situated within the chain of Mackenzie District post, Hay River was poorly situated with respect to the main hunting areas of the Indians who were expected to trade at Hay River. The closest group, the Buffalo Lake Indians, was only 70 km (44 mi) away but this group had traditionally traded at Fort Resolution. The Hay River Indians, during the late 1860s, had wintered close to the "Horse Tracks" and Hudson's Bay Company personnel wanted them to move farther west towards Trout Lake to hunt marten which were then in greater demand than beaver. Both of these places were considerable distances from Hay River - "Horse Tracks" 225 km (140 mi) and Trout Lake 280 km (175 mi). These long distances would not only make the collection of furs difficult, but hinder the gathering of meat to supplement fish supplies.

The route of the "free traders" into the Hay River Valley followed that used by the Hudson's Bay Company at Fort Vermilion to fetch fall provisions gathered by Indians at the

"Horse Tracks" near the junction of the Meander and Hay Rivers. This well used trail was only 128 km (80 mi) long. By contrast, the Hay River post was twice this distance from the "Horse Tracks" and over wooded terrain. The Hay River post, therefore, was not well situated to oppose the "free traders". This function best fitted Fort Vermilion, a well established and secure post close to the route followed by the "free traders".

Site

In December 1868, John Hope wrote the following account of the site of Hay River:

> You perhaps would like to hear a little about this place. I have been at almost every Fort in this District and I can assure you I think this is the best place for fish summer and winter because a man may visit his nets every day in summer let it blow high or low. Now this is no exaggeration, but just what I see to be really so . . . . Our fall fishing was carried on into the river till the 1st of Dec. The lake being perfectly solid at that date. The nets used for our use are 5 and each of these is 25 fathoms long and the fisherman brings home at every visit 100 white fish sometimes more or less and the Trout besides . . . .
>
> The spot I have marked for the HB Coy's Fort and the Protestant Mission is a beautiful looking place and more over the summer fishing is just at the door, and also they may farm as much as they like nothing to stop them.
>
> The only thing I fear you might perhaps think it too far up the river. It is if I guess right about 3 miles above our general landing place. You are to understand that this place overflows its banks the years of great depth of snow and so is the cause I have gone so far. 22

The actual location of the post was most likely on the east bank of the East Channel 1200-1600 m (3/4-1 mi) from the entrance to the lake and close to the south end of the first island (Mission Island or Island "A") in the river (Figs. 13-14). This was nearly 3 km (2 mi) closer to the mouth of the river than planned by Hope, but contemporary accounts and reports at a later date support the view that the post was not constructed at the "spot" chosen by Hope.[23]

In spite of the shallow entrance, the East Channel was the "general landing" place because the constant flow of water during the summer and fewer shoals made it more accessible than the West Channel. The post, although within easy reach of the lake, received protection from rough water and strong northerly winds by the tree covered Hay River Point and Island "A". Undercutting by the river current especially in spring produced a steep cliff along the east bank of the river. This made difficult the docking of canoes and York boats and the transferring of supplies to the river bank. However, this bank lay 3-4 m (9-12 ft) above the river level, compared to less than 3 m (10 ft) along the west bank, and gave protection to the post from flooding during spring break-up. The high water levels of 1904, 1914, and 1963 did not adversely affect this section of the east bank. The rich, well drained, deltaic soil, as Hope indicated, provided a potential for agriculture to supplement fish and game.

The post consisted of a small store and two double storey "frame" houses - one for the post manager and one for

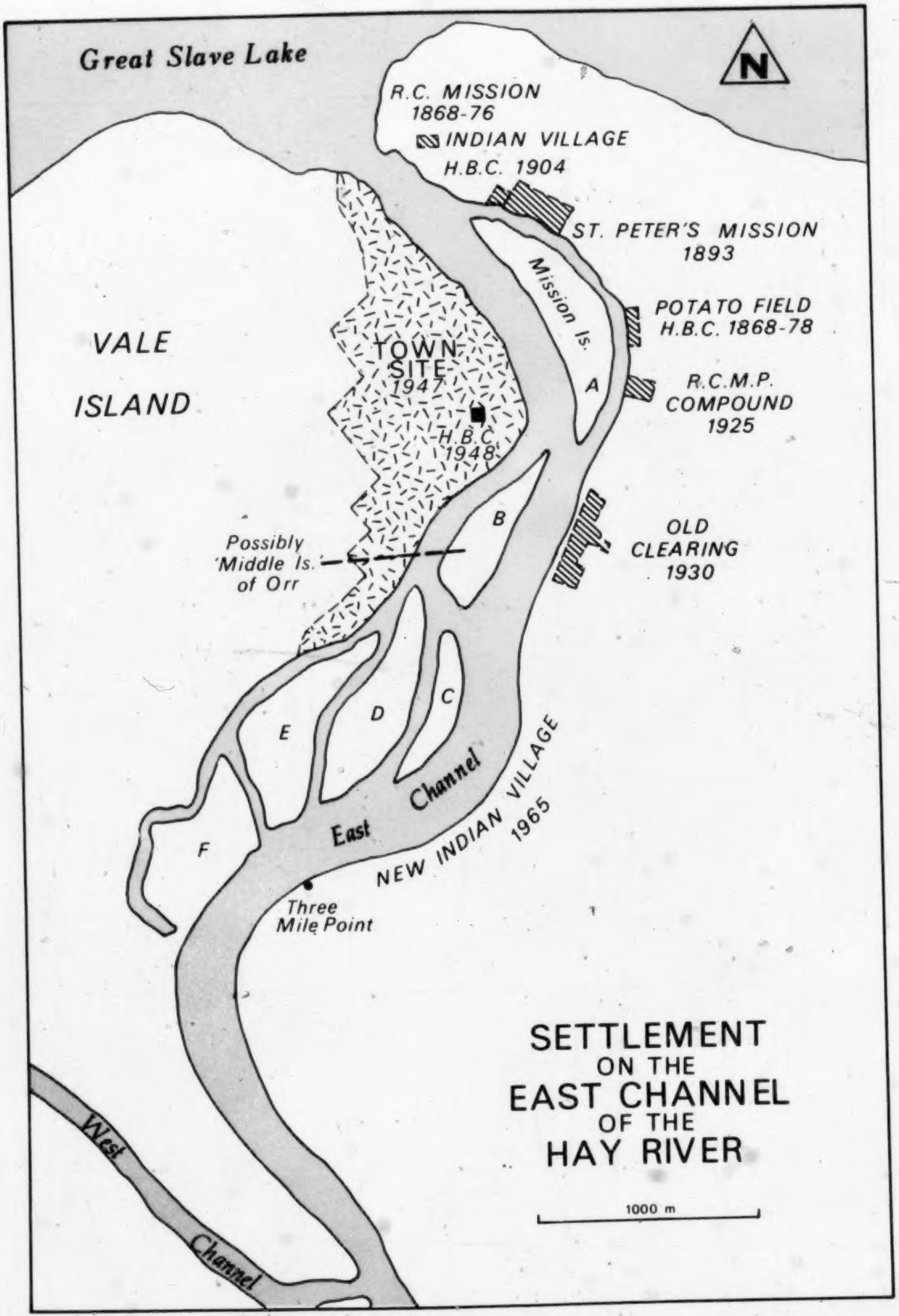

Great Slave Lake
N
R.C. MISSION
1868-76
INDIAN VILLAGE
H.B.C. 1904
ST. PETER'S MISSION
1893
Mission Is.
POTATO FIELD
H.B.C. 1868-78
VALE
ISLAND
TOWN
SITE
1947
H.B.C.
1948
A
R.C.M.P.
COMPOUND
1925
B
OLD
CLEARING
1930
Possibly
'Middle Is.'
of Orr
C
D
E
F
East
Channel
NEW INDIAN VILLAGE
1965
Three
Mile Point
West
Channel
SETTLEMENT
ON THE
EAST CHANNEL
OF THE
HAY RIVER
1000 m

Figure 13

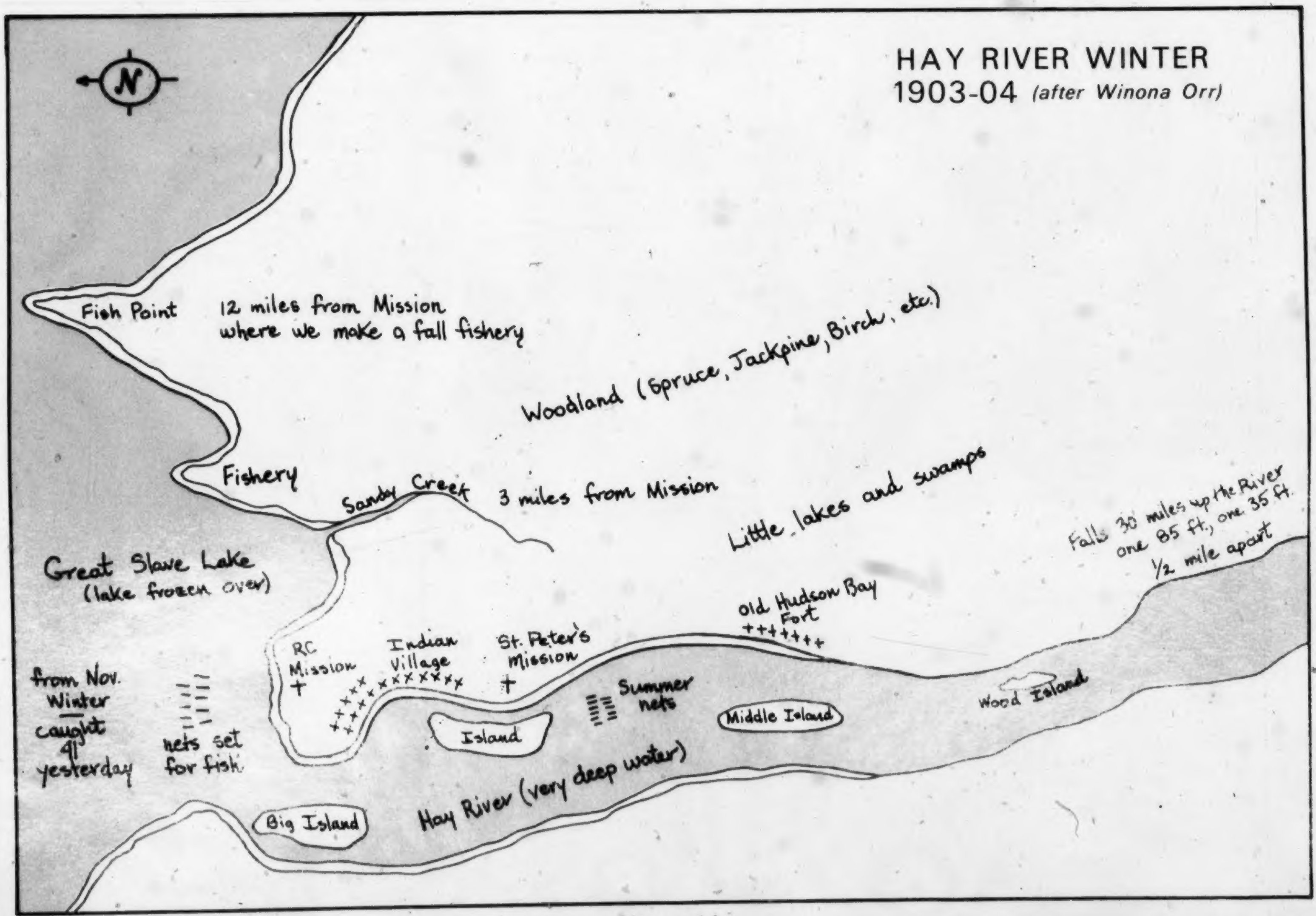

HAY RIVER WINTER
1903-04 (after Winona Orr)
N
Fish Point
12 miles from Mission
where we make a fall fishery
Woodland (Spruce, Jackpine, Birch, etc.)
Fishery
Sandy Creek
3 miles from Mission
Little lakes and swamps
Falls 30 miles up the River
one 85 ft., one 35 ft.
1/2 mile apart
Great Slave Lake
(lake frozen over)
Old Hudson Bay Fort
RC Mission
Indian Village
St. Peter's Mission
from Nov.
Winter
caught
41
yesterday
nets set for fish
Summer nets
Island
Middle Island
Wood Island
Big Island
Hay River (very deep water)

Figure 14

the servants.[24] Smaller huts were occupied by married employees. The staff included a post manager or clerk, two laborers, three boatmen, and a fisherman.[25]

Fur Trade and "Free Traders"

The fur trade at the Hay River post in the period 1868 to 1878 showed large fluctuations in quantity and value of furs collected (Tables III-IV). The reasons for this include the cyclical variation in the number of fur bearing animals but more important, the inability to maintain a large number of Indians who would affiliate themselves solely with the Hay River Hudson's Bay post. Such a group was necessary not only to trap furs but to supply provisions for the post and summer brigades. In 1875-76 and 1876-77, only 20 hunters traded or received credits at the post.[26] The Hay River post with the assistance of the Fort Vermilion post did manage briefly to oppose the "free traders" in the valley. However, the Fort Vermilion post in turn began to attract many Indians who were expected to trade at Hay River.

In the first year of operation (1868-69), the revenue was small because of the scarcity of marten and lynx and the fact that many of the Indians who were expected to trade at Hay River went elsewhere. Only a few people from Trout Lake and Buffalo Lake came to Hay River. Most of the Buffalo Lake Indians continued to trade at Fort Resolution which was not closed.[27] Some Indians who were formerly attached to Big Island post traded at Fort Providence because it was more accessible. Others traded at Fort Vermilion because food sup-

Table III

FUR RETURNS HAY RIVER, N.W.T., 1866-78

Year	Beaver	Marten	Otter	Lynx	Fox	Wolverine	Wolf	Mink	Fisher	Muskrat	Bear	Moose Hides	Swan Skins	Castorium
1866-67[a]	45*	80	0	482	3	4	0	0	0	0	6	72	0	0
1868-69[b]	180	80	10	13	22	6	4	1	7	100	28	40	4	0
1870-71[c]	2239	89	10	8	7	2	1	1	3	580	24	36	4	2**
1871-72[d]	2725	364	6	8	7	14	4	6	3	75	35	60	3	160+
1873-74[e]	2706	913	20	115	10	11	3	56	2	0	41	0	0	0
1876-77[f]	1088	751	15	17	36	9	1	44	5	0	25	0	1	0
1877-78[g]	1465	201	14	14	13	1	1	32	8	91	69	0	0	0

SOURCE: HBCA [a]B.200/b/36/fo.87 fur collected by John Reid in spring 1867; [b]B.200/b/36/fo.245 list of furs at Hay River May 31, 1869; [c]B.289/d/1/fos.12d, 13 compiled from packing returns; [d]B.289/d/2/fo.19d Recapitulation of Returns; [e]B.289/d/3/fo.16d Recapitulation of Returns; [f]B.289/z/1 Recapitualation of Returns; [g]B.289/d/4/fo.4d compiled from packing returns.

*Number of skins except when noted ** kegs + pounds

Note: 20 hunters were listed as trading at Hay River in 1875-77, B.289/z/1, B.289/d/4/fo.8.

Table IV

VALUE OF FUR RETURNS HAY RIVER,N.W.T.

1868-78

1868-69[a]	very small returns
1869-70[b]	1407 pounds 7 shillings
1870-71[b]	1075 pounds 2 shillings
1871-72[c]	1537 pounds 15 shillings*
1872-73[d]	$3000.00 estimate
1873-74[e]	$8663.31
1874-75[f]	$3000.00 estimate
1875-76[g]	$3500.00 estimate
1876-77[h]	$6101.55 estimate
1877-78[i]	$6000.00 estimate

SOURCE: HBCA [a]B.200/b/37/fo.187; [b]B.289/d/1/fo.13; [c]B.289/d/2/fo.19d; [d]B.200/b/41/fo.7 (a considerable quantity of Hay River's trade went to Fort Vermilion); [e]B.289/d/2/fo.19d, B.200/b/39/fos. 47d,48 (indicated good trapping); [f]B.200/b/42/fo.2d (a considerable quantity of Hay River's trade went to Fort Vermilion); [g]B.200/b/42/fos.10,39; [h]B.289/z/1, B.200/b/42/fo.39; [i]B.289/d/4/fo.4d.

*Rate of exchange one pound equals $5-6 approximately.

plies were readily available in that direction. Fort Vermilion attracted hunters as well because of the high quality of tobacco.[28]

The arrival of "free traders" in the Hay River Valley further increased the difficulties of the Hay River post to attract more trade. The value of the fur returns, instead of increasing as the post became more established, dropped to £1075 2s 0d in 1870-71. The American "free traders", McQuesten, Davis, and Mayo traded at the "Horse Tracks" with over 91 Indians most of whom were attached to the Mackenzie River District posts.[29] Effective competition was hindered by the destruction by fire of the men's quarters and by poor hunting which led to a "hand to mouth existence". The lack of dogs because of distemper also reduced the number of trips that could be made over this long distance.[30]

In the following winter, the combined trading activities of both Hay River and Fort Vermilion personnel at the "Horse Tracks" caused the defeat of the American "free traders" and the closure of "Fort McQuesten".[31] The Hay River clerk, interpreter, and laborers made several journeys from Hay River to the "Horse Tracks" with fresh dog teams and ample food supplies; the adverse weather and travel conditions on the Peace River prevented the early arrival of the McQuesten party.[32] An increase in tariff rates also helped in the successful opposition of the "free traders". The tariff rate for marten increased from one to one and one half and two Made Beaver.[33] Hay River post traded almost 400 martens compared with 89 in the previous year and the total returns rose to a value of £1537 15s 0d. This increase in tariff rates further weakened the ability of the Hay River post to attract a distinct group of Indians to supply it with furs. The added expense of transportation to the more distant Hay River post meant that the tariff rate had to be lower than that at Fort Vermilion. Thus, the Indians in the Hay River area found it more advantageous to trade at the "Horse Tracks" or Fort Vermilion which were just as close to their hunting and trapping areas as the Hay River post.

With the removal of the American competition, the Hay River and Fort Vermilion Hudson's Bay posts began an inter-post rivalry for the trade of the Hay River Indians.

In March, 1874, Hay River post clerk, Nicol J. Sinclair stated:

> . . . but as usual those Vermilion people have made several trips across to the Horse Tracks with the purpose of meeting their Indians and under the expectation of seeing some of mine I suppose. 34

The Hay River Indians took advantage of this situation by taking credit at the Hay River post in the fall but trading their furs at Fort Vermilion or the "Horse Tracks" in spring.[35] It appeared inevitable that the Hay River Indians would trade at the "Horse Tracks" because it was closer to their hunting grounds and consequently the Hay River post would decline in importance. In the spring of 1875, the Hay River post sent trade goods to the "Horse Tracks", but the furs traded were carried out by Fort Vermilion personnel.

Although unsatisfactory for the Hay River post, it did allow the Company to obtain a considerable quantity of furs which, otherwise, might have fallen into the hands of opposition traders.[36]

Fur returns, for 1874-75, were low and despite the urgings of Mr. Reid, the post manager of Fort Providence, to persuade the Mackenzie River Indians to return to trade with their own posts, returns increased very little in 1875-76.[37] Discussion of the closure of the Hay River post commenced in early 1877, the main reasons being lack of Indian support and poor food supplies.[38] Even though fur returns increased during the two years, 1876-77 and 1877-78, the post closed in the summer of 1878.[39]

Problems of Provisions

The staff at the Hay River post which included only one experienced fisherman needed a considerable amount of food to feed themselves, their families, dogs, visitors, and also provide supplies to the brigades which carried furs to Portage La Loche (Methy Portage).[40] All northern posts had to be self sufficient because of the high cost of transporting food supplies by boat from the south. John Hope considered the location of Hay River to be excellent for fisheries, for both whitefish and lake trout, to provide the post with a staple food.[41] The more productive areas of large game lay well to the south of the Hay River post in the Buffalo Lake area and in the middle Hay River Valley. Therefore, most of the meat supplies had to be collected from areas many kilometers from the post and few Indians brought in food supplies for trade.

Fish supplies required for the winter amounted to approximately 4000-5000 fish.[42] However, in five out of the ten years of operation supplies were inadequate. In 1871, the fall fishery failed with only a thousand fish stored.[43] In 1874-75, the winter's catch amounted to 1360 fish.[44] The reasons for lack of success included the loss of nets caused by the break-up of one meter (3 ft) thick ice during exceptionally stormy weather[45] and the lack of knowledge of the best fishing areas. Company officials claimed that the fishermen did not follow the fish as they migrated out into deeper water as the winter progressed.[46] Insufficient manpower and dogs to supply transportation prevented fishing in deeper waters away from the post. Natural fluctuations in the number of fish and the location of spawning also influenced the quantity of fish caught. At a later date, the annual fall fisheries of St. Peter's Mission, Hay River, showed a range from 2000 to 12000 fish over a period of 30 years even though the mission used more sophisticated equipment at a variety of locations between Fish Point and Pointe Desmarais.[47]

Large quantities of meat were consumed. In the fall of 1868, Hope had collected 1223 kg (2700 lbs) dry meat; 272 kg (600 lbs) fresh meat, and 136 kg (300 lbs) grease; but by the following spring only 272 kg (600 lbs) dry meat and 91 kg (200 lbs) pounded meat remained.[48] The post relied on trade with Indians for much of this meat and supplies were often inadequate. Some supplies came from the Buffalo Lake Indians but most of the Indians connected to the Hay River post hunted further south in the Hay River Valley and charged high prices for surplus meat; (5 MB for Male Moose, 6 MB for Female Moose, 3 MB for Large Deer, 2 MB for Small Deer, exclusive of hides).[49] These Indians also traded meat and leather goods with Beaver Indians at the "Horse Tracks" in exchange for horses. Forest fires which destroyed hunting grounds, extremely mild weather, and lack of snow which prevented hunting also helped to reduce the availability of food.[50] Meat was scarce in five out of the ten years of operation.

Although the winter fisheries and the supply of meat were uncertain, little evidence exists that indicates that agricultural products supplemented these supplies.[51] Small scale agriculture occurred at other northern locations and Hope considered Hay River a suitable site for agriculture.[52] In later years, St. Peter's Mission planted potatoes in the rich silty soil of the abandoned Hudson's Bay post property with reasonable success.[53]

The lack of adequate food supplies hindered the construction of the post, limited competition with the "free traders", and reduced the provisions available to the summer brigades.[54] In 1870-71 and 1875-76, food had to be sent from Fort Providence and Fort Resolution to offset starvation. Again, in 1874-75, men went to Big Island in order to survive by fishing.[55] In the final two years before closure in 1878, a much reduced staff supported themselves by the winter fishery and their own hunting skills.

Later Fur Trade Activities

Following the closure of the Hay River post, most of the Hay River Indians continued to trade at the "Horse Tracks" with Hudson's Bay Company personnel or "free traders" who returned to the area. To strengthen its trade, the Company built a permanent outpost at the "Horse Tracks" in 1900 called "Hay River Post".[56] In 1906 and 1907, the pack trail was upgraded to a corduroy wagon road with funds from the Alberta Government.[57] A Hudson's Bay Company store continued to exist at the "Horse Tracks", the name of which was changed to "Upper Hay River Post" and finally to the present day name, "Meander River".

In the Mackenzie District, tariff rates were raised in order to compete with the Athabasca tariff at Fort Vermilion. Hudson's Bay personnel at Fort Providence and Fort Resolution made long trading trips to Indian encampments at Lake Bistcho, Hay River, and Buffalo Lake as people became more sedentary and reliant on their fur trade as a livelihood.[58]

A small encampment was formed at Pointe Desmarais to support some of the families from the abandoned Hay River post. A few cattle were brought over the winter ice from Fort Providence but, because of insufficient hay supplies and difficult winter fishing caused by poor ice conditions, the people returned to Hay River in 1880s. Here, a small settlement was built near the mouth of the East Channel downstream of the old post site. The small population of a few families raised some cattle and potatoes, and continued the traditional hunting and trapping as well.[59]

Access to the Mackenzie River system became easier because of the growth of Edmonton and construction of the road northwards to Athabasca Landing which bypassed the arduous Portage La Loche route. The large shallow-draft, steam driven boats, Grahame, Wrigley, and Athabasca helped the Hudson's Bay Company reduce its expenses and labor force and increase its volume of trade; but the way was now also open for more competitors.[60] The increased traffic on the Mackenzie River route, the establishment of both Anglican and Roman Catholic missions, and the growth in the Indian population, which seasonally resorted to Hay River to trade and fish, resulted in the reopening of fur trading posts at Hay River. In October 1901, the Hudson's Bay Company, Hislop and Nagle Company, and Swiggart Company constructed stores at Hay River.[61] The Hudson's Bay post received full post status in 1914-15 and the Company continues to serve the community today.

Summary

Following the closure of the North West Company post in 1820, many of the Indians who remained in the Hay River area developed strong ties with the Hudson's Bay Company at the Fort Vermilion post and its seasonal outpost camp at the "Horse Tracks" because of their accessibility and favorable price or tariff structure. The Mackenzie River District posts - Fort Resolution, Big Island, and Fort Liard situated on the more expensive northern transportation route could only operate profitably on a lower tariff structure.

In the 1860s, the Hudson's Bay Company reorganized its Mackenzie River District posts in the Great Slave Lake area and built a new post at the mouth of the Hay River rather than at the "Horse Tracks" near the site of the former North West Company post. The situation factors influencing these changes were accessibility of posts during the spring and fall trading periods, proximity to food supplies, and effective locations for competition with "free traders".

At this new location, halfway between the Slave River Delta and the entrance of the Mackenzie River, the Hay River post was expected to take over most of the trade of Big Island and that of Fort Resolution and become an important link in the chain of Mackenzie River District posts. But Fort Resolution remained open and Fort Providence, the other post established in the reorganization, took over some of the Big Island trade and obtained ample supplies of food from the Big Island fishery and the Horn Mountain caribou herds.

Although the Hay River post was situated on the north-south route along the Hay River Valley between Great Slave Lake and the lower Peace River Valley that had been successfully used by the North West Company, its location at the north end of the route at the mouth of the river made competition difficult with the "free traders" who entered the valley from the south. Most of the Indians hunted and trapped in areas close to the "Horse Tracks" which were hard to reach from the Hay River post because of long distances and the limited means of transportation available at that time.

Combined action by Hudson's Bay Company personnel from Hay River post and Fort Vermilion defeated the "free traders". This defeat was aided by the fact that the "free traders" suffered transportation problems caused by bad weather and ice conditions. Despite this defeat, the Hay River post did not become a viable operation because it was simply too far removed from the Hay River Indians. Favorable tariffs could not be offered to attract a sufficiently large number of permanent hunters to provide both furs and provisions.

The site at the Hay River post, although it was considered suitable for the production of both fish and agricultural products, failed on many occasions to provide adequate food supplies. Bad weather, lack of manpower, expertise, and equipment hampered successful fisheries. Little evidence exists to indicate that the agricultural potential was utilized. The lack of fish and agricultural products was compounded by the fact that the Hay River Indians who might have been able to supply meat occupied areas many kilometers south of the post.

In 1878, the post closed and the Hay River area was once again serviced by the surrounding posts of Fort Resolution, Fort Providence, Fort Liard, and Fort Vermilion. Not until the early twentieth century did the Hudson's Bay Company reestablish itself at the mouth of the Hay River along with rival traders and become a permanent part of the slowly expanding settlement of Hay River. The situation factors that encouraged this development included the increased accessibility of the Mackenzie River system arising from the northward extension of roads and railways and the use of steam powered vessels along the waterway. Also, the slow development of more sedentary Indian communities reliant on the fur trade and the growth of a small nucleus of permanent residents around the Anglican and Roman Catholic missions formed a more secure population for trade.

Footnotes

[1] In 1826, 13 Chipewyan hunters and 50 dependents from Hay River were attached to the Hudson's Bay post at Fort Vermilion, HBCA B.224/d/3/fos. 59-61.

[2] HBCA B.181/a/10/fo.8, B.181/a/15/fo.2.

[3] HBCA B.200b/36/fo.87, John Reid to William Lucas Hardisty, March 10, 1867.

[4] Minutes of Council, Northern Department indicate a post at Big Island in 1847 (HBCA B.239/k/2/fo.402) but Stager, p. 247 stated that it was operating in the 1830s. Richardson described the rich resources of the Big Island area in 1848, John Richardson, Arctic Searching Expedition (London: Longman, Brown, Green and Lognmans, 1851), pp. 160-161; Simpson stated that Fort Simpson personnel subsisted mainly on fish from Great Slave Lake and that 1839 at least 21 Mackenzie River personnel subsisted on fishing at Great Slave Lake, Thomas Simpson, Narrative of the Discoveries on the North Coast of America (Toronto: Canadiana House, 1970): pp. 398-400.

[5] Approximately six boat loads (14000 fish) were sent to Fort Simpson each fall, HBCA B.200/b/30/fo.20 James Anderson to John Reid, October 1st 1853, B.200/b/36/fo.67, John Reid to William Lucas Hardisty, October 15, 1866.

[6] The term "free traders" was used by the Hudson's Bay Company to denote any rival competition to their trade. By this date the Company had no legal monopoly over trade.

[7] HBCA B.200/b/35/fo.101, W.L. Hardisty to William MacTavish, November 27, 1866; as early as 1851 James Anderson who was in charge of Fort Simpson to the head of the Mac-

kenzie (Public Archives of Canada, James Anderson Papers, MG19, A29, vol. 1, file 1, p. 54, James Anderson to Eden Colvile, November 22, 1851.

[8] HBCA B.200/b/35/fo.125, Hardisty to MacTavish, August 16, 1867. The Roman Catholic Mission took up a good riverside site and much timber had been used for its buildings including an orphanage in 1867, R.P. Duchaussois, Mid Snow and Ice, The Apostle of the Northwest (Buffalo, Missionary Oblates Mary Immaculate, 1937) pp. 266-67; R.P. Duchaussois, The Grey Nuns in the Far North, 1867-1917 (Toronto: McClelland and Stewart, 1919) p. 116.

[9] Timbers were rafted down from Big Island to the new site in spring 1868 HBCA B.200/b/37/fo.15, Roderick MacFarlane to John Reid November 27, 1867, B.200/b/36/fo.145, Reid to MacFarlane, April 17, 1868. This Fort Providence is often confused with the NWCo. Fort Providence built in 1789 on Yellowknife Bay in Great Slave Lake.

[10] HBCA B.200/b/27/fo.33.

[11] HBCA B.200/b/35/fo.93, Hardisty to Wilson July 28, 1866, "700 died in Mackenzie River last fall", of those 40 came from Fort Resolution.

[12] HBCA B.200/b/35/fo.84, Hardisty to Christie, July 29, 1866.

[13] HBCA B.200/b/35/fo.93, Hardisty to Governor of HBC July 30, 1866, "Americans from Peace River as far as Salt River".

[14] HBCA B.200/b/37/fos. 114-118, Roderick MacFarlane to William MacTavish December 2, 1868. Tariffs were lower on the Mackenzie River because of the extra cost of freighting supplies compared with the Athabasca area. Fort Resolution was on the "A" Tariff. Also Buffalo Lake Indians had been trading martens at Fort Resolution as a rate of 1 marten for 2 Made Beaver (MB). This was in order to prevent them going to the "free traders" at Salt River in 1866-67. The Big Island post paid 1 MB for each marten (HBCA B.200/b/35/Hardisty to Governor August 17, 1867).

[15] Gordon E. Bowes, Peace River Chronicles (Vancouver: Prescott Publishing Company, 1963): pp. 72, 112, 146.

[16] HBCA B.224/a/12/fo.21, B.200/b/35/fo.84, Hardisty to Christie, July 29, 1867.

[17] PAC,CMS,MG17 B2, Cl/O, Appendix B, Rev. W.C. Bompas, Journal 1867 June-November (PAC Reel A83); Pamela Ann Mathewson. "The Geographical Impact of Outsider's on the 'Community' of Fort Chipewyan, Alberta", (M.A. thesis, Uni-

versity of Alberta, Edmonton, 1974), p. 45.

[18] HBCA B.200/b/35/fos.120-122, Hardisty to MacTavish August 16, 1867. Hay River Indians and Big Island Indians had been coming occasionally to Fort Vermilion to trade at the "A" Tariff in the 1860s and might trade with "free traders" if the opportunity arose. Thus the need to keep the Indians farther west and at the same time catch more marten which were then more in demand than beaver. Hardisty in the same letter advocated supplying the Mackenzie via the Bering Sea and therefore cutting freight costs and increasing the ability of giving higher prices.

[19] HBCA B.200/b/36/fo.173, Reid to MacFarlane, October 15, 1868. The term "outpost" applies to a small trading post under supervision of larger post.

[20] York boats were flat bottomed wooden vessels about 12m (36') long powered by up to eight oarsmen and square sail. They carried up to 2 tonnes (5 tons) of cargo, Frederick J. Alcock, "Past and Present Trade Routes to the Canadian North-West", Geographical Review 10 (August, 1920): 58-83.

[21] Fish provided the bulk of the food at many northern posts because of the comparative ease and cost of fishing in comparison to hunting large game and the high cost of importing dry provisions.

[22] HBCA B.200/b/36/fo.207, John Hope to Roderick MacFarlane December 18, 1868. John Hope wrote this letter in reply to a letter from Robert MacFarlane who was in charge of the Mackenzie District. MacFarlane had outlined his duties and reprimanded Hope on delays in forwarding the express (HBCA B.200/b/37/fo.119). It is possible that Hope's account may be somewhat exaggerated.

[23] The Roman Catholic Church constructed the Sainte-Anne Mission at the mouth of the Hay River 1868-69 and this according to Mgr. Clut of 1876 was one mile (1.6 km) below the post (Missions de La Congregation des Oblats de Marie Immaculée, Vol. 16, No. 16, Mars. 1878, p. 24). The post was also upstream of St. Peter's Anglican Mission built on the east bank at the northern end of Island "A" in 1893 and this mission planted potatoes on the "Old Fort Site" (Diaries and Map of Winona Orr 1903-04, personal communication with Mrs. L. Haughton, Heffley Creek, B.C.). This potato field was located north of lot 25 and is marked on chart number 32685, 1922, Canadian Legal Survey Registry, Surveys and Mapping Branch, Department of Energy Mines and Resources, Ottawa; Rae, pp. 254, 302 indicated the post in this location.

[24] HBCA B.200/b/36/fos. 222-224, Hope to MacFarlane, March, 1869, B.200/b/38/fos. 82-84, N.J. Sinclair to W.L. Hardisty, March 1, 1871.

[25] HBCA B.289/d/1/fo.7 Statement of Officers and Servants-Wages 1870-71

[26] HBCA B.289/z/1, B.289/d/4/fo.8.

[27] HBCA B.200/b/26/fo. 185, Bishop Grouard to Roderick MacFarlane November 24, 1868, "Fort Resolution's suppression have been resolved by Council".

[28] Some Big Island Indians came south to subsist on "Beaver Flesh" and away from "Marten Country" (HBCA B.224/a/14/fo.3, February 6, 1869); Tobacco was a major trade item (HBCA B.200/b/37/fo.175, MacFarlane to MacTavish July 24, 1868).

[28] Glenbow-Alberta Institute, Calgary, ACC. No.A.M173, Recollections of Leroy N. McQuesten, Life in the Yukon, 1871-1885, Ben May was McQuesten's partner. Davis may have been the celebrated "Twelve Foot Davis" see Norman Soars, "Twelve Foot Davis", Northwest Digest, (Nov.-Dec., 1953), pp. 10-11. McQuesten had traded well over £800 of furs principally the higher valued marten (HBCA B.200/b/38/fo.148, MacFarlane to Hardisty), "Fort McQuesten" was built at the "Horse Tracks".

[30] HBCA B.200/b/38/fos.82-83, Sinclair to Hardisty, March 1, 1871.

[31] HBCA B.200/b/38/fo.148.

[32] HBCA B.289/d/2/fo.10 lists supplies for two trips, HBCA B.200/b/38/fos.177-78.

[33] Harold Innis, The Fur Trade in Canada (Toronto: University of Toronto Press, 1969), p. 372.

[34] HBCA B.200/b/39/fos. 47d,48, Sinclair to Hardisty, March 16, 1874.

[35] HBCA B.200/b/41/fo.7, Donald Smith to W.L. Hardisty, January 2, 1874.

[36] HBCA B.200/b/40/fo.117d, W.L. Hardisty to George Gairdner, April 4, 1875; B.200/b/42/fo.2d, W.L. Hardisty to James Grahame, July 31, 1875.

[37] HBCA B.200/b/42/fo.10, Hardisty to Grahame, August 4, 1876.

[38] HBCA B.200/b/42/fos.32-32d, W.L. Hardisty to William McMurray, March 40, 1877; B.200/b/42/fo.74d, Hardisty to Grahame, July 20, 1878.

[39] HBCA B.200/b/43/fo.37, Julian S. Camsell to James Grahame, November 28, 1878.

[40] The total consumption of food is not known but Expenditures of Provisions at Hay River for 1870-71 Oct-May was 1747 kg (3857 lbs) fresh meat, 881 kg (1945 lbs) dry meat, 122 kg (270 lbs) grease, 49 geese, 6306 fresh fish, for 1871-72 June-May 1773 kg (3914 lbs) fresh meat, 941 kg (2079 lbs) dry meat, 78 kg (172 lbs) grease, 8143 fresh fish, (HBCA B.289/d/1/fos. 33d-34, B.289/d/2/fos.14d-15). Fresh fish probably does not include fish caught in the fall and hung for winter use. In December, 1871 1800 kg (4000 lbs) dry meat and 180 kg (400 lbs) of grease were in store but these figures do not agree with the yearly totals (HBCA B.200/b/38/fo.187).

[41] Although John Hope stated in the fall of 1868 that he was not exaggerating about the fishing potential of Hay River he was only able to store 2000 fish between September and November and that from January 1869 on very few fish were caught despite the use of 6 nets (HBCA B.200/b/36/fo.183, Reid to MacFarlane November 24, 1868, B.200/b/36/fos. 242-243 Hope to MacFarlane, May 31, 1869). Hope may indeed have overestimated the fish potential in the immediate vicinity of Hay River.

[42] HBCA B.200/c/2/fos.11-12, Gairdner to Hardisty, January 10, 1875.

[43] HBCA B.200/b/38/fo.187.

[44] HBCA B.200/c/2/fos.11-12.

[45] HBCA B.200/b/39/fos.47d-48, Sinclair to Hardisty March 16, 1874.

[46] HBCA B.200/b/40/fo.132, Hardisty to Grahame, March 30, 1876.

[47] See Chapter Six.

[48] HBCA B.200/b/36/fo.183, B.200/b/36/fos.242-43.

[49] HBCA B.200/b/38/fo.83.

[50] HBCA B.200/b/37/fo.96. Forest fires led to failure of provisioning at Big Island; PAC,CMS,MA17 B2, C1/O, Appendix B, No. 752 Bompas to General Secretary, May 6, 1878 (PAC Reel A103). Bompas reports lack of food throughout Mackenzie and Athabasca Districts.

[51] In the spring of 1869, William Hoole, a Hay River laborer, failed to purchase some potatoes at Fort Resolution whether the intent was to buy potatoes for seed is not known (Diary of Thomas Swanston, Clerk in Charge, Fort Resolution, source L. Menez, Fort Resolution, April 19, 1869 entry).

The Inventory for Hay River Post 1870 indicated the post owned a heifer and one ox. The cattle could have been brought in from Salt River or the Mission at Fort Providence and kept until hay supplies lasted and then slaughtered (HBCA B.289/d/2/fo.14).

[52] C.S. Mackinnon, "The Rise and Decline of Agriculture and Horticulture in the Mackenzie District and the Yukon", *The Musk-Ox*, No. 30, (Summer 1982), pp.48-50.

[53] See footnote 23 and Table V.

[54] Heavy construction work on the new frame houses was slowed down because of lack of food (HBCA B.200/b/38/fos. 30-32, William Brass to W.L. Hardisty February 26, 1870; only about 2 bags of "pemmican" were available for the brigades in 1874 (HBCA B.200/b/39/fo.47d).

[55] Fort Providence was well supplied with fish from Big Island and caribou from the Horn Plateau area. Fort Resolution received caribou from area at the eastern end of Great Slave Lake.

[56] Brick Brothers and Revillion Frères traded there in the late nineteenth and early twentieth century; HBCA A.78/10/fo.114.

[57] Canada, Royal Northwest Mounted Police Report (1909), "Patrol Report, Sergeant R.W. MacLeod, Fort Vermilion to Hay River, January 1909," *Canada Sessional Papers* No. 28, 1910, pp. 178-80.

[58] Michael Asch, "Some Effects of the Late Nineteenth Century Modernization of the Fur Trade on the Economy of the Slavey Indians," *The Western Canadian Journal of Anthropology* 6,4 (1976): pp. 10-11.

[59] Prince of Wales Heritage Center, Yellowknife, Metis Collection, M163, File Norn, Acc.593 and Acc A80/125, 13TP69, Recollections of Frank Norn, Hay River, 1970s; William Ogilivie, *Exploration Survey of Post of the Lewes, Tat-on-du, Porcupine, Bell, Trout, Peel and Mackenzie Rivers*, Canada, Department of Mines, Geological Survey, Report 1887-88 (Ottawa, Queen's Printers, 1890), pp. 75-76.

[60] Innis, pp. 343-45, 365-66; J.L. Robinson, "Water Transportation in the Canadian Northwest," *Canadian Geographical Journal*, 31 (November, 1945); p. 238; Alcock, pp. 80-82; Morris Zaslow, "History of Transportation and Development of the Mackenzie Basin," (M.A. thesis, University of Toronto, 1948). *Grahame* length 110 ft; beam 22 ft; cargo capacity 75 tons. *Wrigley* length 110 ft; beam 16 ft; cargo capacity 30 tons.

[61] Alberta Archives (Abbrev. AA.), Diocese of Mackenzie River Papers (Abbrev. DMR), MR 4/3, Journal of St. Peter Mission, Hay River, entry October 25, 1901.

CHAPTER V

EARLY MISSIONARY ACTIVITY IN THE MACKENZIE RIVER BASIN AND THE ESTABLISHMENT OF ST. PETER'S ANGLICAN MISSION AND RESIDENTIAL SCHOOL AT HAY RIVER IN 1893

The growth of Hay River, in the last decade of the nineteenth century and the first three decades of the twentieth century, relate to the establishment of St. Peter's Anglican Mission and Residential School in the settlement in 1893. According to several accounts, the construction of the mission followed the request by the local Indian Chief for a full time missionary to live among his people.[1] This request was fulfilled; but the building of the permanent mission resulted from the interaction of many factors within the growth of missionary activity in the Mackenzie River Basin by both the Roman Catholic and Anglican Churches.

Although the entry of European fur traders into the area dates back to the late eighteenth century, not until the 1840s did missionaries penetrate the area. Regular contact with the Hay River area came in the 1860s and 1870s. The opening of church missions and their subsequent development shared some of the same problems faced by the fur trading companies. These included obtaining sufficient food and supplies, being able to keep in regular contact with the nomadic Indian groups, acquiring suitable staff and financial support, and competition with rival missions.

Early Missionary Activities

The Wesleyan Methodist, James Evans, made the first missionary journey into the Mackenzie River Basin, reaching as far north as Fort Chipewyan in 1841, Although the work of James Evans and other Wesleyan missionaries working in the Canadian Northwest was limited to the years 1840-48, it successfully laid the groundwork which encouraged other missionaries to follow.[2]

In 1858, the Roman Catholic Oblate priest, the Reverend Grollier, constructed St. Joseph's Mission on Moose Deer Island near Fort Resolution.[3] This mission lay at a strategic position on the Mackenzie River route and should have given assurance against competition from the Anglican missionaries who were moving west. But in the same year, the Hudson's Bay Company gave the Reverend James Hunter permission to visit the Mackenzie River District to choose suitable locations for missions and mission schools on behalf of the Church Missionary Society.[4] This led to a period of intense rivalry and rapid expansion of missionary activities as far north as the Mackenzie River Delta. The Anglican Church established its headquarters at St. David's Mission, in Fort Simpson, a focal point within the Mackenzie River District. The Roman Catholic Church built its main mission, Nôtre Dame de la Providence, just below the entrance to the Mackenzie River and the Big Island fishery, a distance of only 120 km (75 mi) from the mouth of the Hay River.

The goal of the Church Missionary Society was to develop self supporting congregations of Native Christians and education played an integral part in this process.[5] The Anglican missionaries struggled for over thirty years to establish a permanent Diocesan School in the Mackenzie River area.[6] Such a school had to be accessible to students all over the area and at a place where sufficient food for both pupils and staff could be provided. The main impetus for the establishment of a Diocesan School came from the Reverend William Carpenter Bompas who later became the first bishop of the Diocese of Athabasca.[7]

Between 1865 and 1868, while travelling as an itinerant missionary, Bompas gathered information about the people and food supplies over a vast area from Great Bear Lake to the upper Peace River. He gained knowledge of the location and work of the Roman Catholic missionaries and the proposals of the Hudson's Bay Company for the reorganization of its posts and manpower. From this information, he planned his own work and proposed locations for more permanent mission stations which would best serve the people south of the headquarters at Fort Simpson. The best location for a mission would be one that had ample food supplies, a large stable population with little competition from the Roman Catholic priests. The first two basic factors influenced the location of the Hudson's Bay Company posts. These posts offered the missions support and security if needed and acted as focal points which enabled the missionaries to come into close contact with the Indians.

Hay River Missions 1868-78

In 1868, Bompas proposed that a mission and orphanage be built at the mouth of the Hay River near the newly constructed Hudson's Bay Company post.[8] The other locations around Great Slave Lake with large populations and food supplies, Fort Providence, Fort Rae, and Fort Resolution were strongholds of the Roman Catholic Church. At Hay River, the lake would provide ample fish, the new Hudson's Bay Company post would provide support, security and attract the nomadic Indians. Hay River also lay halfway along the river route between the Mackenzie River and the Peace River and on the overland route along the Hay River Valley which reduced the distance between Fort Vermilion, on the Peace River with Fort Simpson on the Mackenzie River. Therefore, Hay River was centrally located to serve the area visited by the Anglican missionaries at that time.

As a result of this proposal by Bompas to build a "rival" orphanage close by the Nôtre Dame de la Providence mission and orphanage, the Roman Catholic missionaries commenced construction of a small mission at Hay River in December 1868.[9] This new mission, Mission Sainte Anne, would forestall the proposed Anglican mission and win converts among the Indians who visited the newly established Hudson's Bay Company post. Also, Mission Sainte Anne was to replace St. Joseph's Mission near the Hudson's Bay Company post at Fort Resolution. With the reorganization of the Great Slave Lake posts and scheduled closure of Fort Resolution, Chief Factor William L. Hardisty, had recommended to Bishop Faraud that Hay River would be a more effective location for a mission. However, once the closure of Fort Resolution was rescinded by Council, the importance of the new mission at Hay River decreased especially after Bompas failed to build the proposed orphanage. Few Indians came to the Hay River post except in spring and fall, therefore, there was no need for a permanent mission staff.[11] Priests from the neighbouring missions, Notre Dame de la Providence and St. Joseph's made periodic visits until 1878 when the Hudson's Bay Company post closed. Even the mission house and church erected at the mouth of the East Channel were abandoned for temporary quarters close to the Hudson's Bay post in order to more effectively make contact with the few Indians who did trade at the post.[12] During times of poor food supplies, the Roman Catholic missionaries stayed at the winter fishing camps at Pointe de Roche and Pointe Desmarais.

Although Bompas and his fellow missionaries made periodic visits to Hay River in the 1870s, no permanent mission, orphanage or school were built. The reasons for this were clearly outlined in a letter by Rev. William D. Reeve:

> The people had been starving all the winter. The Indians were unsettled and talked of leaving the fort. There was a report that the fort would be removed or abandoned altogether; and there seemed no livelihood of our receiving much assistance in making the necessary preparations for erecting buildings... 13

The intermittent visits, especially by William Norn, a country born catechist in 1875-76, strengthened the position of the Anglican Church and the desire of the Indians for Protestant instruction. Norn's attempts to conduct a school ended because of "shortness of provisions".[14] In the next two decades, Hay River was visited occasionally by Anglican missionaries stationed at Fort Rae and Fort Resolution.

Diocesan School

Despite the failure to establish an orphanage or residential school at Hay River or any other location, the desire to do so remained strong and formed a major part of the opening address give by Bishop Bompas at the first meeting of the Synod of the Diocese of Athabasca held at Fort Simpson on September 4, 1876.[15] But ten years later, the discussions continued at a similar meeting of the Diocese of Mackenzie River. The main difficulties included suitable staffing, financial support and, more important, a secure location. The school required a school master, carpenter, fisherman, and a farmer in order to carry out the daily tasks of the institution and free the clergyman for the work of evangelisation. A sum of $10,000 was required for the initial construction of the school and about $2,500 per annum for maintenance.[16] By the early 1890s, the Canadian government slowly began to take a role in education of the Northwest Territories and was willing to pay half the teacher's salary.[17] Other funds came from the Church Missionary Society;

but most of the money came as a result of fund raising campaigns and speaking tours by Bishop Bompas and Bishop Reeve.[18]

The selection of a suitable location with a site able to sustain both staff and a large number of pupils and yet be in a situation to serve the whole of the Diocese had always been a major problem. The first school conducted at Fort Simpson, although centrally located, had to be moved to Fort Norman in 1860 to be closer to the Great Bear Lake caribou herds.[19] Local food supplies fluctuated because of climatic and faunal variations but had to be relied upon. For, even though there was a slow improvement in transportation with the introduction of steam powered boats on the Mackenzie River in 1886, the cost of importing goods was high.[20] Widespread famine in 1888-89 resulting in the death of 30 people not only reinforced the necessity of careful site selection, but also the need to locate the school where some food supplies from the south could be delivered relatively cheaply.[21]

Suggested school locations at Fort Norman and Fort Rae relied on caribou for basic food supplies but migration routes had been changing adversely in the late 1880s. School locations with sites having good agricultural potential and close to fisheries were considered more suitable. Bompas pointed to the success of the Roman Catholic mission at Fort Providence with good agricultural land and proximity to the Big Island fishery, and the Irene Training School and Industrial Farm established at Fort Vermilion in 1879.[22]

Bompas had considered Big Island as a possible location for the school because of the good fishing, fertile soils for vegetables,and the proximity of meat supplies from Fort Rae. He voted against the motion presented at the first Synod of the Diocese of Mackenzie River in 1886 to build the school at Fort Simpson and a farm at Fort Liard to supply it with vegetables.[23] Fort Liard had good soils and mild climate but was too far from Fort Simpson and main communication routes. Finally, in 1890, Bompas chose St. James Mission at Fort Resolution for the location of the Diocesan school. Great Slave Lake provided ample fish and the soils of the delta of the Slave River provided fertile farmland. Fort Resolution lay on the Mackenzie River route linking it to the other missions but was not too far from southern supplies. The most northern mission, St. Matthew's, Fort McPherson was 1600 km (1000 mi) down river and Edmonton, the expanding supply center was 1280 km (800 mi) to the south. A few resident students had already been taught by the wife of the missionary Reverend William Spendlove.[24] The main disadvantage was that the Roman Catholic St. Joseph's Mission lay close by. The school continued until 1395 and received financial assistance from the Canadian Government. Lack of staff and strong competition from the Roman Catholic Church led to the closure of both mission and school, and the transfer of the remaining students to St. Peter's Mission, Hay River, constructed two years earlier, which was only 160 km (100 mi) to the west of Fort Resolution.[25] With the addition of these students, St. Peter's Mission adopted the role of residential school and continued to serve the whole of the Mackenzie River area until 1937.

Hay River possessed the same basic advantages as Fort Resolution as well as the absence of strong Roman Catholic rivalry and was well known to both Bishop Bompas and Bishop Reeve for at least twenty years. These advantages and the opening of a mission there were outlined in a proposal to reorganize the Diocese of Mackenize River by the new bishop, Bishop Reeve, in 1892:

> It seems to me that we are scarcely acting wisely in seeking in vain to obtain a footing where the priests are already established and where the Indians are entirely under their influence and neglecting those who either belong to us or wish to do so - as at Fort Wrigley and the Hay River Indians.
>
> I propose therefore with the consent of the Committee, to remove Mr. Marsh to Hay River, as it is better suited than Wrigley for the work for which he offered, viz; - to try to form a little settlement of Indians and establish a school amongst them. Two or three families are settled there, barley and potatoes can be grown; cattle can be kept; fish are plentiful now; the Indians are not under the thumbs of the priests, but have long wanted us there.26

In the spring of 1893, Mr. Marsh left Fort Liard and arrived at Hay River on June 30 to commence his task of building the new St. Peter's mission and school.[27]

Summary

St. Peter's Anglican mission, Hay River was established partially at the request of the local Indian Chief, but many other factors played significant roles, particularly the desire by the Anglican Church to open a Diocesan School within the Diocese of Mackenzie River. Such a school had to be located where the site could provide the major food supplies, but at the same time, be in a situation where students from the whole Diocese could be readily assembled, and be in reasonably secure contact with southern suppliers and personnel.

The southern position of Hay River within the Diocese gave it relatively better climatic conditions than more northerly missions. This advantage combined with the rich deltaic soils provided suitable conditions for agriculture. The fish resources of the adjacent Great Slave Lake had substantially improved. The situation of Hay River midway along the Mackenzie River system made it equally accessible to both students and supplies.

Hay River was the only settlement in the upper Mackenzie River and Great Slave Lake area in which the Roman Catholic Church had very little influence; and the placement of a missionary there would be an efficient use of limited manpower.

As a result of these advantages, St. Peter's Mission was established in 1893 and was able to take over the role of Diocesan school in 1895.

Footnotes

[1] Wallace, p. 16; St. Andrew's Anglican Church (Abbrev. SA), Hay River, Parish History, St. Peter's Anglican Church; Archives of General Synod of the Anglican Church of Canada (Abbrev. Synod.), Toronto, Diocese of the Arctic Collection (Abbrev. Arctic), A.J. Vale, Historical Sketch of the Origin and Work of Hay River Mission, Great Slave Lake, N. W. T. (Canada), 1893-1956.

[2] The work of the Wesleyan missionaries in the Northwest is discussed in Nan Shipley, The James Evans Story (Toronto:

Ryerson Press, 1966) and Hugh A. Dempsey, ed., The Rundle Journals 1840-48 (Calgary: Alberta Records Publications Board, Historical Society of Alberta and Glenbow-Alberta Institute, 1977).

[3] Joseph-Etienne Champagne, Les Missions Catholiques dans L'Ouest Canadien, (Ottawa: Publications de L'Institute de Missiologiede L'Universite Pontificate D'Ottawa, 1947), pp. 85, 114. Visits to Great Slave Lake were made as early as 1852.

[4] The basic reference for the work of the Anglican Church in the Northwest is T.C.B. Boon, The Anglican Church from the Bay to the Rockies (Toronto: Ryerson Press, 1962). The source for detailed information is the Church Missionary Society Papers on microfilm in the Public Archives of Canada. For this first journey by Hunter see Boon, pp. 80-82 and PAC,CMS,MG17 B2, C.1/M.6, pp. 326, 377, 395-99, (PAC Reel A80).

[5] Jean Usher, "The Social Theory of the Church Missionary Society", Social History 7 (April, 1971): pp. 28-52.

[6] The first school held in 1859 contained 8 pupils including 2 Nahanni boys, 1 Loucheux boy, 2 Chipewyan boys as well as Slavey boys from Fort Simpson. In 1861 one boy from the Yukon attended school, PAC,CMS, C.1/M.6, pp. 469, 487, 648, (PAC Reel A80).

[7] H.A. Cody, An Apostle of the North (New York: Dutton, 1908); William Carpenter Bompas, Colonial Church Histories, Diocese of Mackenzie River (London: Society for Promoting Christian Knowledge, 1888).

[8] AA, Missions de la Congregations des Missionaries Oblats de Marie Immaculée (Abbrev. OMl), vol. II (1873), letter of Brother Boisramé, May 5, 1870; HBCA, B.200/b/36/fo.207; PAC, CMS, C.1/M.10, p. 32 (PAC Reel A81), W.C. Bompas to Secretaries, November 19, 1874.

[9] AA,OMl, vol. 10 (1872), pp. 5-6, vol. 11 (1873), pp. 178-79.

[10] HBCA, B.200/b/36/fo.214, Reid to MacFarlane, January 24, 1869, B.200/b/36/fo.185, Grouard to MacFarlane, November 24, 1868.

[11] Petitot records a population of 100 attached to Hay River post in 1874 but this is not a resident population. Emile Petitot, "On the Athabasca District of the Canadian North-West Territory", Proceedings of the Royal Geographical Society 5 (November, 1883): 653.

[12] AA,OM1, vol. 16, 1878, pp. 24-26, vol. 12, 1874, pp. 243-45.

[13] PAC,CMS, C.1/M.10, pp. 179-80 (PAC Reel A81), W.D. Reeve to Secretaries, June 19, 1875.

[14] PAC,CMS, C.1/0, Appendix B, No. 548 (PAC Reel A102), W.D. Reeve to Secretaries, Spring 1876.

[15] PAC,CMS, C.1/0, Appendix B, No. 604 (PAC Reel A102).

[16] Schoolmaster £150, carpenter £50, fisherman £50 and farmer £100, PAC,CMS, C.1/0, Appendix D, no. 1029 (PAC Reel A114); Bompas outlined the overall cost in a prospectus for funds in 1889, PAC,CMS, Appendix D, no. 1365 (PAC Reel A115).

[17] PAC,CMS,C.1/0, Appendix D, no. 1759 (PAC Reel A117). The Lieutenant Governor of the N.W.T. paid for teachers in disorganized districts from a special fund. In Treaty areas funds were provided for building schools.

[18] Bompas felt that the Church Missionary Society had not provided sufficient funds to support its proposed policy of training native people, PAC,CMS, C.1/0, Appendix D, no. 1363 (PAC Reel A115).

[19] PAC,CMS, C.1./M.6, p. 487 (PAC Reel A80).

[20] Krech identified 7 years between 1819-1844 when severe starvation occurred in the Mackenzie Drainage Basin, Shepard Krech, III, "Reconsiderations of Aboriginal Social Organization in the North American Sub Arctic", Arctic Anthropology 17, 2 (1980): 3-8; Bompas complained that despite the introduction of steamboats the cost of shipping had increased, PAC,CMS, C.1./0, Appendix D, no. 1369 (PAC Reel A115); Freight costs from Winnipeg to Fort McPherson $25.00 per cwt., PAC,CMS, C.1./0, Appendix D, no. 1531 (PAC Reel A116); Flour $1.50 in Manitoba but over $15.00 in the Mackenzie District in 1890, PAC,CMS, C.1./0, Appendix D, no. 1578 (PAC Reel A116).

[21] Famine caused by more easterly migration of caribou away from Mackenzie River posts. Missionaries survived on imported flour, PAC,CMS, C.1./0, Appendix D, no. 1389 (PAC Reel A116). Reeve advocated importation of more food to all missions and "freedom from starvation and anxiety" and purchase of some luxuries, PAC,CMS, C.1./0, Appendix D, no. 1592 (PAC Reel A116).

[22] It was from the Irene Training School and Industrial Form that Bompas hoped to receive provisions for the Diocese of Mackenzie and received the services of Grace and Sheridan Lawrence in 1890, Boon, p. 224; Eugenie Louise Myles, The

Emperor of the Peace River (Saskatoon: Western Producer Prairie Books, 1965), pp. 104-8.

[23] Although Fort Simpson was centrally located its food supplies were inadequate and often clergy had to be removed to better sources of food, PAC,CMS C.1/0, Appendix D, no. 948, (PAC Reel A114).

[24] At least one student was an Inuit from the Arctic Coast, PAC,CMS, C.1/0, Appendix D, no. 1455 (PAC Reel A116).

[25] Rev. W. Spendlove left because of poor health, Sheridan Lawrence, the manual worker left because of low wages. The Roman Catholic priests from St. Joseph's Mission on Moose Deer Island constructed a small house adjacent to the Anglican mission in order to check on its activities, PAC,CMS, C.1/0, Appendix D, no. 2290 (PAC Reel A119).

[26] PAC,CMS, C.1/0, Appendix D, no. 1953 (PAC Reel A118); Russell in 1890 stated that heavy storms and waves had driven large numbers of white fish to the south shore of Great Slave Lake and the fisheries that had been poor in the 1870s were now much improved. Frank Russell, The Explorations in the Far North (Iowa City: University of Iowa Press, 1898), p. 85.

[27] AA, DMR, MR.4/3, Journal of St. Peter's Mission, June 30, 1893.

CHAPTER VI

THE DEVELOPMENT OF ST. PETER'S ANGLICAN MISSION AND RESIDENTIAL SCHOOL 1893-1937, ITS SITUATION, SITE,AND CHANGING ROLE AS AN EDUCATIONAL CENTER WITHIN THE DIOCESE OF MACKENZIE RIVER

During the period 1893-1937, the situational advantages of locating the Diocesan School at St. Peter's Mission, Hay River, particularly that of accessibility to both southern Canada and other missions in the Diocese declined in importance. As the efforts of the Anglican Church became more concentrated in the Lower Mackenzie and Arctic Coast area, Hay River became more remote from the centers of activity of the church and the ability of St. Peter's Mission and Residential School to carry on its educational function decreased. Improvements in transportation gave better service to more northern communities and the reliance on local provisions produced at Hay River became less important. By 1937, Hay River was replaced by Aklavik as the location of the Diocesan School and the educational function of St. Peter's Mission ended.

The Development of the Residential School and Its Changing Situation Within the Diocese

1893-1900

The first school lessons were given to a few Slavey boys in the fall of 1893. School operated on an intermittent basis because most families left the village for the traditional hunting and fishing camps during most of the year. In the summer of 1895, the school took on its residential function with the transfer of nine students from the original Diocesan School at Fort Resolution. These students came from communities situated relatively close to Hay River with small Anglican populations (Fort Chipewyan 630 km, 395 mi, Fort Simpson 374 km, 234 mi, Fort Wrigley 618 km, 386 mi)(Fig. 15 a-b).[1]

The school received only small financial support from the Department of the Interior,[2] but as the school became more established students were sought farther afield. By 1900, the total school population of thirty six students included only six from Hay River.[3] Four children of Hudson's Bay Company employees came from Fort Rae and Fort Chipewyan. The majority of the students came from Wrigley and Fort Norman where the Anglican Church had stationed missionaries since 1895(Fig. 15c).[4] Small boats purchased from American whalers and Klondike miners provided cheap transportation.[5]

1900-20

In the summer of 1900, the Slavey Chiefs of the Hay River band signed an adhesion to Treaty No. 8 and, therefore, the Anglican mission and residential school became located within the geographic limits of the treaty which extended from the south shore of Great Slave Lake into northwest Alberta and northeast British Columbia. As a result of the treaty,

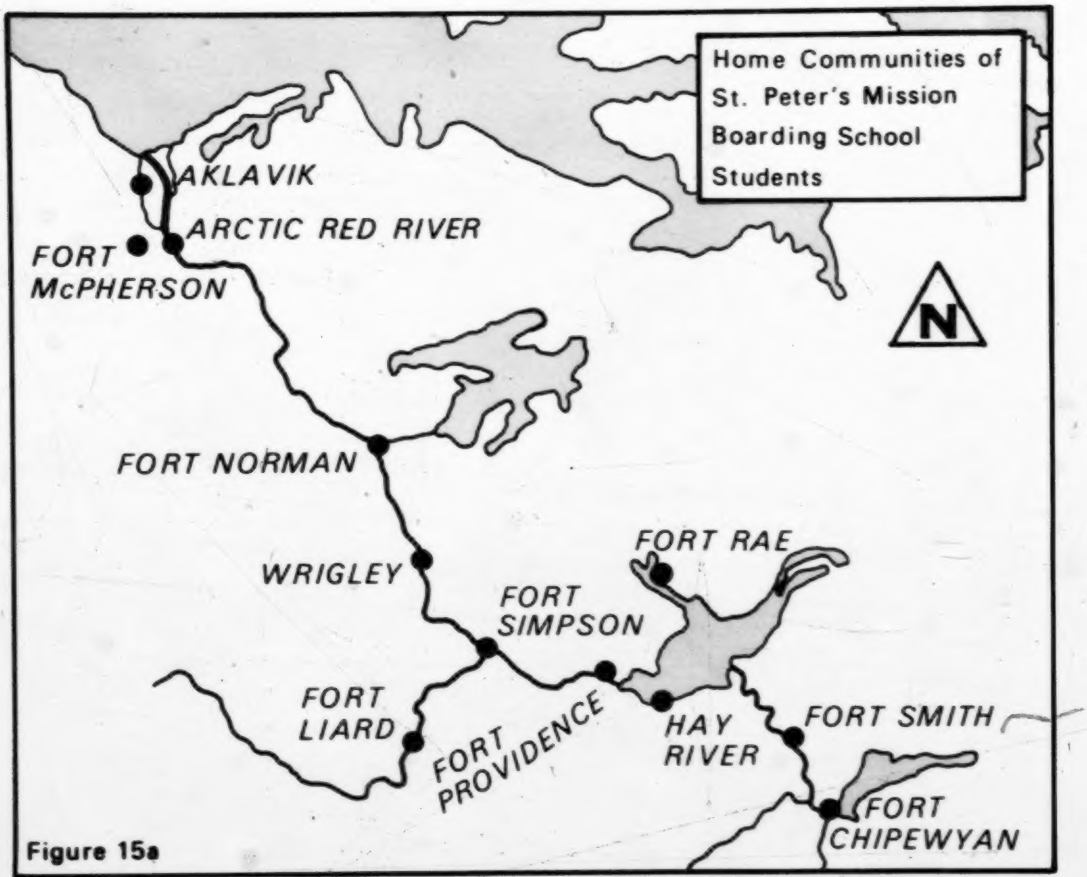

Home Communities of
St. Peter's Mission
Boarding School
Students
N
AKLAVIK
ARCTIC RED RIVER
FORT McPHERSON
FORT NORMAN
FORT RAE
WRIGLEY
FORT SIMPSON
FORT LIARD
FORT PROVIDENCE
HAY RIVER
FORT SMITH
FORT CHIPEWYAN

Figure 15a

ORIGIN OF ST. PETER'S MISSION BOARDING SCHOOL STUDENTS 1895-1937

SOURCE: General Synod Archives, Anglican Church,
Arctic Collection
P.A.C. Indian Affairs RG10
Alberta Archives, Diocese of Mackenzie River,
Diocese of Athabasca
St. Andrew's, Hay River, St. Peter's Papers

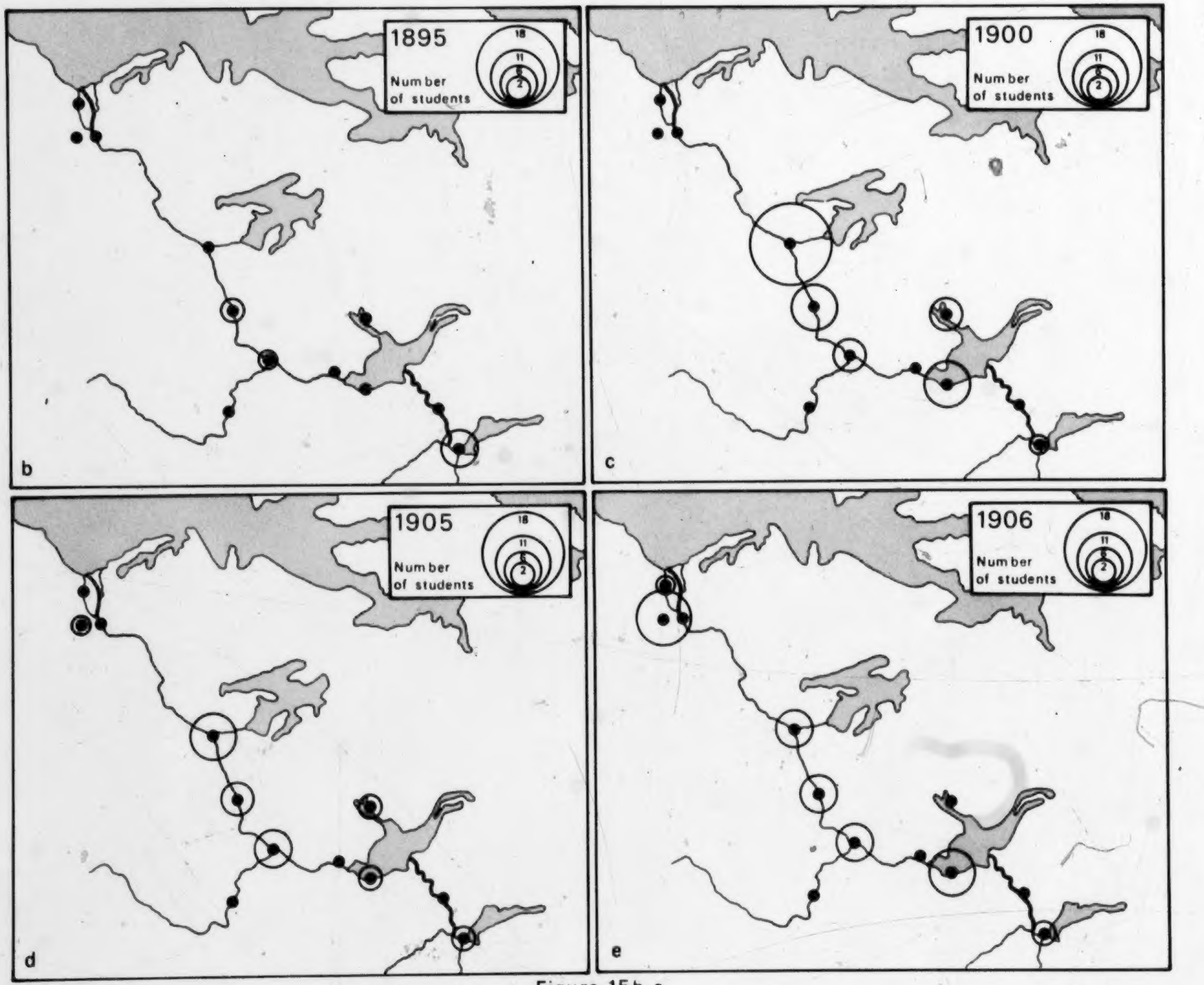

1895
Number of students
18
11
5
2
b
1900
Number of students
18
11
5
2
c
1905
Number of students
18
11
5
2
d
1906
Number of students
18
11
5
2
e

Figure 15b-e

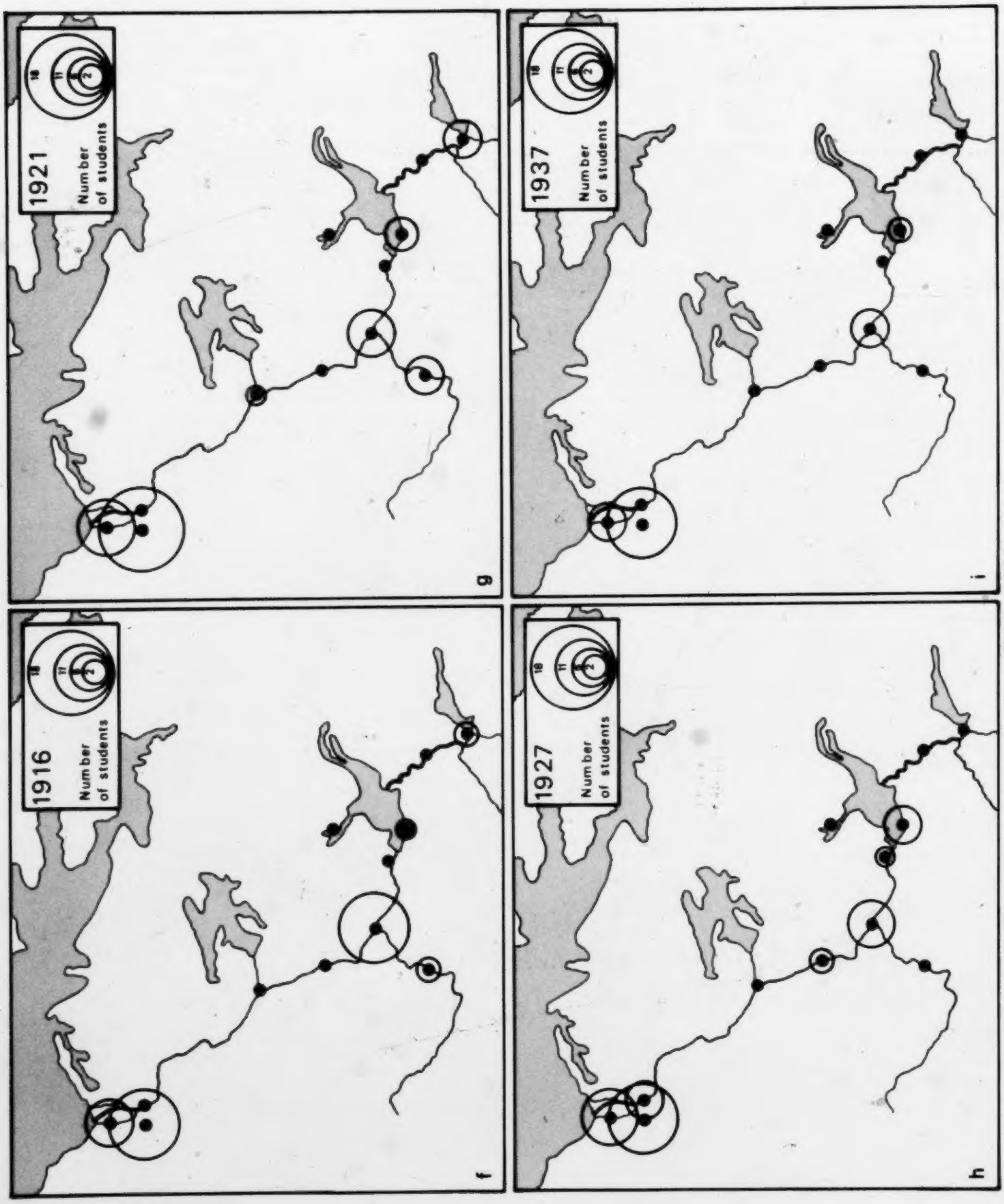

1916
Number of students
18
11
2
f
1921
Number of students
18
11
2
g
1927
Number of students
18
11
2
h
1937
Number of students
18
11
2
i

Figure 15f-i

the Anglican Church secured more financial support from the Canadian Government for its expanding educational endeavours without infringement on its missionary goals.[6] St. Peter's Mission continued to receive grants for teachers but also obtained additional funds from the Department of Indian Affairs on a per capita basis. Financial support, therefore, depended on acquiring a large number of students. Since local Slavey children were not regular attenders or boarders, students from more distant areas were brought to Hay River to increase the enrolment.[7]

During the first two decades of the twentieth century, the school population increased erratically to a total of fifty-four students. Fluctuation in numbers related to problems of transportation, health conditions, and accommodation. After the construction of a new large three storey residential school and small isolation hospital in 1917 to replace the original overcrowded log building, the per capita grants increased to support fifty students.[8] In the first few years of the twentieth century most students came from the Upper Mackenzie particularly Fort Simpson and Fort Norman. In 1905, one student came from Fort McPherson, but in the following year eleven out of a total of thirty-one residential students came from this community.[9] This trend towards a dominance of students from the Lower Mackenzie continued throughout the remaining years of the school's existence (Fig. 15 d-i). By 1921, of the fifty students eligible for grants from the Department of Indian Affairs, only three came from

Hay River and seven from Fort Simpson. Nineteen Loucheux students came from Fort McPherson and a further eleven from the Arctic Coast as far west as Herschel Island. A few children of Hudson's Bay Company employees stationed at isolated posts such as Fort Liard also attended the school.[10]

The reason for the trend towards students from the Lower Mackenzie and the Arctic Coast resulted from the successful missionary activity by the Anglican Church in that region.

In the late 1850s, the Anglican Church initially intended to "leap frog" over the Roman Catholic areas of concentration at Lac La Ronge and Lake Athabasca and build its own sphere of influence in the Mackenzie Valley. But, the Roman Catholic Church actively resisted this expansion; and the Anglican Church failed to gain a strong foothold in the Upper Mackenzie and Great Slave Lake area despite the location of its headquarters at Fort Simpson in the center of the region. It did make good progress in the Lower Mackenzie at Fort McPherson largely due to the long sustained effort of the Reverend Robert Macdonald. His work with the Loucheux Indians and early contacts with the Inuit of the Mackenzie Delta and Arctic Coast was ably carried on by his fellow workers and successors including the Reverend Isaac O. Stringer and Reverend Charles E. Whittaker in the late nineteenth and twentieth century.[11]

The increase in the number of students from the northern areas was not only the result of the dedication of the missionary, but also changes in the economy and settlement pattern of both the Loucheux Indian and Inuit. With the decline of the "Gold Rush" and "Coastal Whaling", these people who had been scattered through the Yukon and along the Arctic Coast returned slowly to the Mackenzie Delta from about 1910 onwards. They congregated in settlements and returned to the rapidly expanding fur trade. Therefore, it was much more convenient and productive for the Anglican missionaries to concentrate their activities in the Lower Mackenzie where there were larger concentrations of people who were actively involved in a European styled commercial economy than in the Upper Mackenzie with its more traditional hunting economy.[12] The Anglican missionaries were able to obtain sufficient children from the Lower Mackenzie to fill the residential school at Hay River and did not aggressively seek students from the Upper Mackenzie even though it was closer to Hay River.

At the time of the construction of the new costly school building in 1916-17, it was known that the majority of future students would have to travel over 1600 km (1000 mi) to attend school. The cost of transportation would be great and students would have to remain away from home for several years. In spite of these difficulties, no attempt was made to relocate the residential school in a suitable settlement in the Lower Mackenzie at this time. The advantages of remaining in Hay River outweighed the disadvantages. The situation of St. Peter's Mission within the boundaries of Treaty 8 gave some financial security. Food supplies, particularly fish and agricultural products could be produced more abundantly at Hay River than at any settlement in the Lower Mackenzie.[13] These local supplies were essential because river transportation, the only means of bringing in supplies from the south at this time, was expensive and unreliable. The relocation of the residential school to the Lower Mackenzie over 2900 km (1800 mi) from Edmonton, the main supply center, would have caused a major increase in yearly transportation costs and possible disaster if supplies failed to arrive.

Water transportation along the Mackenzie River system was slow, infrequent, irregular, and expensive because of the physical characteristics of the river route, weather conditions, the organization of the fur trade, and type of transportation equipment used. Even in the 1930s, a scheduled trip to Aklavik from Edmonton took sixteen days. The destruction of a scow in the Athabasca River rapids in 1903 caused missionaries from Hay River to be stranded for thirty days. The failure to transfer church supplies across the Fort Smith portage around the rapids of the Slave River forced Anglican missionaries at Fort McPherson to seek refuge at Hay River in 1908. Numerous delays and curtailment of service resulted from low water levels, ice conditions, and high winds. The S.S. Mckenzie River took thirteen days to travel from Fort Resolution to Hay River in the fall of 1909 because of high winds and waves on Great Slave Lake. The same vessel was icebound in Hay River harbor as late as July 5 in 1918.[14]

Boats owned and operated by fur trading companies fitted their schedules to the needs of the companies. No fixed schedule existed for the transportation of public freight or passengers. In most cases, a single trip along the Mackenzie River provided adequate service for the fur trade companies in the first two decades of the twentieth century. Shallow draft sternwheelers replaced the screw propelled steamboats on the Mackenzie River in 1908. These larger vessels carried at least twice as much freight but were slow.[15] They consumed a cord of wood per hour and stopped about every 160 km (100 mi) to refuel.[16] Sternwheelers frequently had to seek shelter while crossing Great Slave Lake because their flat hulls did not suit travel in rough windy lake conditions. Although well adapted for the Mackenzie River with its uncharted shoals, they took more time on upstream journeys because of the lack of sufficient power.

For this slow and uncertain service, the public had to pay high prices for passage and freight. The total passenger fares varied according to the distance travelled, surcharges for upstream travel, nightly charge for a berth, and the cost of meals on lengthy journeys. In 1911, a nine day journey from Fort McPherson to Hay River cost $45 at the half fare rate. In the following year, an eighteen day journey from Hay River to Athabasca Landing cost a total of $85.70.[17] In 1908, the freight rates from Athabasca Landing to Hay River, Fort Simpson, and Fort McPherson were 7 3/4¢, 9½¢, and 13 3/4¢ per pound respectively. In the same year, the total freight charges for the St. Peter's Mission amounted to $2065.84.[18] If the school had been at Fort McPherson, the freight charges would have been more than double this amount because of the need to import more food supplies. Even if any per capita student grants had been available, all of these would have been used up in freight charges. By 1914, when plans for a new school building were discussed, freight charges had been increased to 10½¢, 11 3/4¢, and 16½¢ per pound.[19]

Apart from the difficulties of transportation, communications to missionary headquarters, government agencies, and suppliers were slow and interferred with effective planning. Government mail services only reached Fort Providence in 1911 and Hay River, even though it generated a great deal of mail, did not have a post office until 1914.[20]

1921-34

During this period, St. Peter's Mission and Residential School remained the Diocesan School in spite of its remoteness from the home communities of most of the student. In 1922, 68 per cent of the residential students came from Fort McPherson or settlements farther north.[21] In 1927, the percentage decreased to 53 per cent but a further 13 per cent came from the neighbouring community of Arctic Red River(Fig. 15h).[22] In 1937, at the closure of the residential school, 81 per cent of all twenty-one students returning north went either to Fort McPherson or further north to Aklavik (Fig. 15i).[23]

After the signing of Treaty 11 in 1921, encompassing the

Mackenzie Valley, the Department of Indian Affairs became increasingly reluctant to help defray the cost of transporting students from the more northern communities to any of the large residential schools in the Great Slave Lake area. The Department considered that there were sufficient children in the immediate vicinity to fill the residential schools. It also claimed that the four local community schools funded by the Government provided an adequate education. Furthermore, the expense of transportation was too great.[24] The increased responsibility of bearing the cost of transportation of students to and from Hay River as well as freight costs placed a heavy burden on school finances. In 1922, the total cost of transporting students amounted to $936.35[25] and freight charges from the new head of navigation at Waterways,[26] 350 km (220 mi) downstream of Athabasca Landing, were $1870.83.[27] By 1926, the student transportation charges had risen to $1185.35.[28]

In order to reduce costs, children were kept at the St. Peter's Residential School for several years without returning home for holidays. Children became homesick. Some parents, to show their discontent, pressured the Anglican Church to build a school closer to their homes in the Lower Mackenzie by refusing to send their children to Hay River.[29]

Compounding these financial and social problems were the recent advances of the Roman Catholic Church into the Mackenzie Delta in the earlier 1920s and the need for major structural repairs to the residential school building in Hay River.

In 1924, the Committee of the Board of Management of the Missionary Society of the Church of England in Canada decided that:

> The transfer of the Hay River Indian Residential School to Aklavik be approved in principle, and that the General Secretary be instructed to consult with the Deputy Superintendent General (Department of Indian Affairs) with a view to arriving at an agreement concerning the scale of per capita grant, etc. which would be necessary for administration of a school at such a remote point as Aklavik. 30

In the summer of 1923, the Roman Catholic Church began constructing a mission at Aklavik, a site also chosen by the Anglican Church a few years earlier. In 1926, it started building a residential school and hospital to rival the Anglican Church hospital opened that same year.[31] Therefore, the Anglican Church adopted a policy of extension through concentration and diverted some of its attention and funds from Hay River in order to retain its traditional advantage in the Lower Mackenzie.[32] But, not until 1929, did the Anglican Church build a new residential school and this only on a temporary basis. Using funds allocated by the Canadian Government for Eskimo education and utilizing old whaling buildings, the Anglican Church opened a school at Shingle Point midway between Herschel Island and Aklavik. This, however, did not satisfy the large number of Loucheux people at Fort McPherson.[33]

1935-37

By this time, water and air transportation as well as mail and radio services to the Lower Mackenzie had improved greatly. This made it more feasible for the Anglican Church to relocate its Diocesan residential school from Hay River to Aklavik and, therefore, be more centrally located for the vast majority of the Anglican population in the District of Mackenzie.

The improved water transportation with new tugs and barges supplementing the sternwheelers provided a more reliable service.[34] In 1936, freight rates from Waterways to Hay River, Fort Simpson, and Aklavik were only 4¢, 5½¢, and 6¢ per pound respectively, that is, less than half the rates charged in 1914.[35] The Anglican Church also received a 50 per cent discount. Passenger fares remained expensive and a journey to Aklavik still took about sixteen days. Aircraft, which began to fly in the Mackenzie Valley on a regular basis in 1929, now provided a faster, safer, but somewhat more expensive alternative. By 1940, an air trip from Waterways to Aklavik took less than two days at a cost of $240; whereas a similar journey by water took sixteen days at a total cost of $196.[36] Aircraft provided a regular mail service both in winter and summer. The winter dog sled mail run to Aklavik from Edmonton which took seventy-two days was replaced by a forty-eight hour air trip in 1935.[37]

In 1935, the Canadian Government and the Anglican Church signed an agreement to unite the residential schools at Hay River and Shingle Point in a new building to be erected in the Mackenzie Delta. The school for one hundred students supported by per capita grants from the Department of Indian

Affairs opened in Aklavik in the summer of 1936.[38] St. Peter's Residential School transferred some of its staff and the youngest students in the same summer and the remaining older students left for Aklavik in August, 1937.[39]

The fate of the residential school at Hay River was debated during the year 1936-37. The desire to keep the school opened to serve the communities of the Upper Mackenzie led to a survey of potential candidates in settlements south from Fort Norman. Even though the survey found a sufficient number of school-aged children, parents showed a reluctance to send their children, not only because of the distance, but also because of the poor state of the buildings, and the fear that they might catch tuberculosis. A small family residential school for fifteen pupils was planned but only an assurance of two students was forthcoming from all communities south of Fort Norman.[40]

On September 1, 1937, the residential school closed and a day school continued for local children on an irregular basis until the opening of the Federal Day School in 1949.[41]

Site of St. Peter's Mission and Residential School (Fig. 16)

In a retrospective review of the St. Peter's Mission and Residential School in 1935, Canon S. Gould, General Secretary of the Missionary Society of the Church of England in Canada, stated that despite its situation away from the large and solid community of Anglican Indians:

> The Hay River site assured fish in abundance from Great Slave Lake; lumber in abundance from the virgin forests up the river; and in favourable seasons,

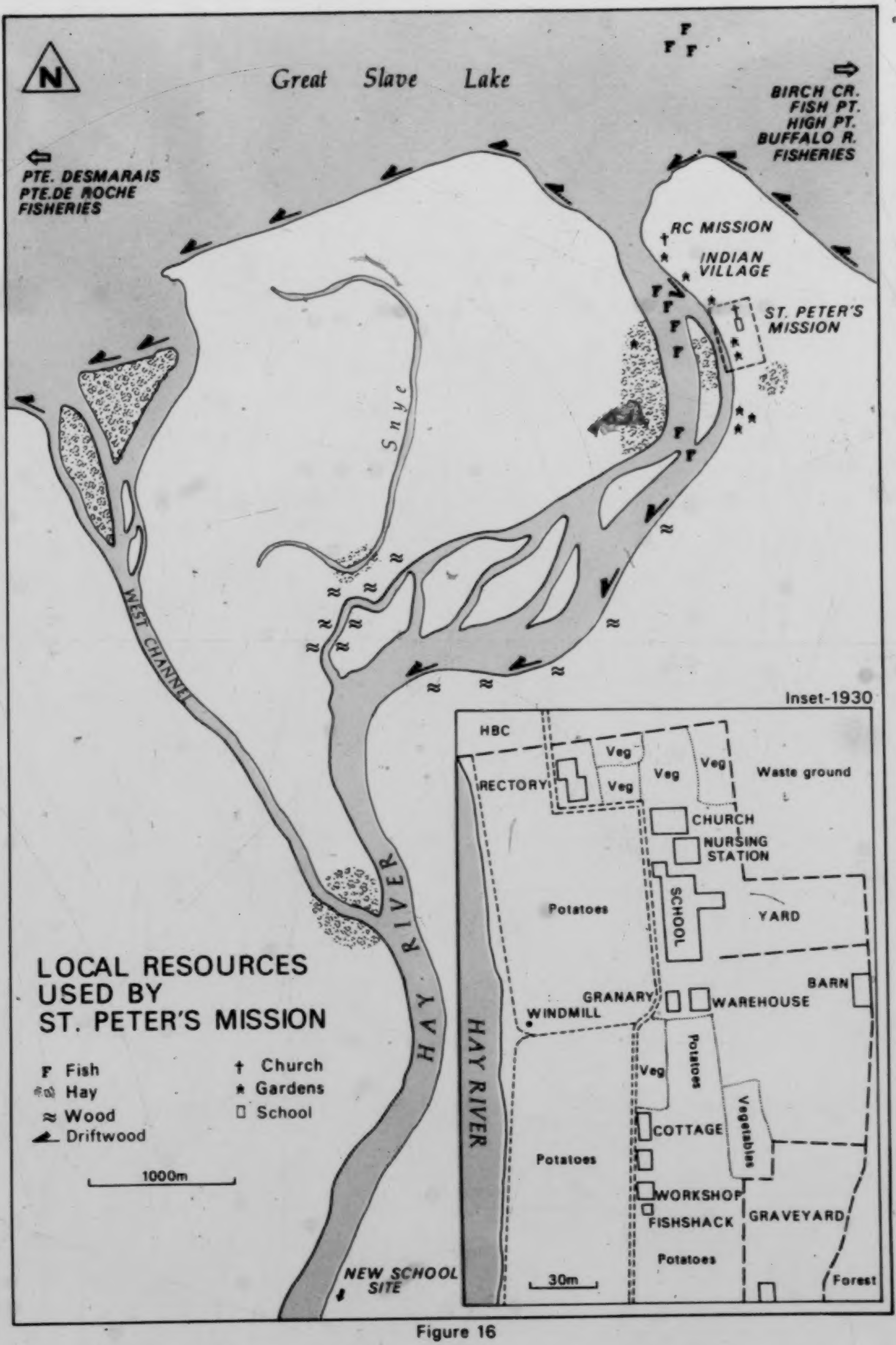

N
Great Slave Lake
PTE. DESMARAIS
PTE.DE ROCHE
FISHERIES
BIRCH CR.
FISH PT.
HIGH PT.
BUFFALO R.
FISHERIES
RC MISSION
INDIAN VILLAGE
ST. PETER'S MISSION
Snye
WEST CHANNEL
HAY RIVER
NEW SCHOOL SITE
LOCAL RESOURCES USED BY ST. PETER'S MISSION
F Fish
Hay
≈ Wood
Driftwood
† Church
★ Gardens
▯ School
1000m
Inset-1930
HBC
Veg
Veg
Veg
Veg
Waste ground
RECTORY
CHURCH
NURSING STATION
SCHOOL
YARD
Potatoes
BARN
GRANARY
WAREHOUSE
WINDMILL
HAY RIVER
Veg
Potatoes
Vegetables
COTTAGE
Potatoes
WORKSHOP
FISHSHACK
GRAVEYARD
Potatoes
30m
Forest

Figure 16

> vegetables in abundance from the gardens planted in the rich deposits of alluvial soils 42

Gould listed the same site factors as those considered by both Bishop Bompas and Bishop Reeve in choosing the location for the Diocesan School in the late nineteenth century. The ability of be self sufficient in the basic necessities of life was of great importance. The cost of importing all food supplies was prohibitive and difficulties of transportation precluded the reliance on store bought food. Local country provisions had always been the mainstay of the indigenous population and later were adopted by fur traders and missionaries. Fish provided the most important local food because of its availability throughout most of the year, relative abundance, ease of storage, and lower requirement of manpower to catch than other sources of protein such as moose and caribou. To this basic food, the early fur traders added the potato and it became a staple food in all small settlements in the Mackenzie District. The potato provided a filling food that grew in harsh conditions with little care but returned high yields.

These two staples formed the basic diet[43] for staff and students at the residential school because they were cheap, readily available, and formed a major part of the customary diet of the children:

> Our usual custom is to feed the children as much as possible along the lines they are likely to be able to secure on their return home. This we consider wise for the following reasons. The change of food will be less severe

> on their constitutions and they will be
> more readily satisfied with their lot
> again among their people. 44

Fish

An annual fall fishery, based on the run of spawning whitefish in the shallow waters of ~~the~~ south shore of Great Slave Lake, providedthe mission with its major single source of fish for the winter. A short fishing season of four to five weeks in September and October produced the "hung"[46] fish for winter consumption. The cooling fall weather and rise of frosty conditions preserved the fish and prevented rotting.

The fall fishery took place mainly off Fish Point, 22 km (14 mi) east of Hay River, where a small promontory jutted out into the lake with the leeside providing some shelter for small boats. In the 1920s, Birch Creek, 2 km (1¼ mi) west of Fish Point, became a center for the fall fishery because it provided a safe harbor for larger boats used at that time. Occasional fisheries took place at Pointe de Roche, High Point, and Pointe Desmarais which were farther away from Hay River.

The total catch varied from 2000 to 12000 fish depending on weather conditions, equipment used, available manpower, and changes in the fall run (Table V). The stormy fall weather hindered fishing from small boats and the transportation of the catch to Hay River. These rough conditions demanded the use of more expensive and larger boats which had difficulty in navigating the shallow water. Sheltered har-

Table V

BASIC FOOD SUPPLIES ST. PETER'S MISSION

HAY RIVER, N.W.T., 1896-1936

YEAR	FALL FISHERY	POTATOES	YEAR	FALL FISHERY	POTATOES
1896	-	194[a]	1917	9000	600
1897	2500[b]	238	1918	9600	600
1898	-	-	1919	8000	625
1899	12000	325	1920	-	1000
1900	3400	-	1921	8000	1000
1901	-	-	1922	9680	800
1902	-	-	1923	5700	700
1903	poor	535	1924	poor	small
1904	2000	750	1925	2730	average
1905	11000	400	1926	-	good
1906	7900	500	1927	2800	small
1907	11000	750	1928	2260	300
1908	10200	1000	1929	-	-
1909	6800	700	1930	11000	226[c]
1910	7000	800	1931	-	-
1911	11040	600	1932	5000	92[c]
1912	10000	450	1933	-	-
1913	7190	600	1934	5000	-
1914	7500	1100	1935	6000	400
1915	6000	500	1936	3000	763
1916	4720	300			

SOURCE: Diaries of St. Peter's, Annual Newsletter St. Peter's, Alberta Archives; St. Peter's Papers, Hay River; St. Peter's Papers, General Synod Archives.

[a] bushels, [b] fish, [c] bags

bors such as the mouth of Birch Creek became a necessity for these larger vessels. Adverse wind directions, particularly from the south east, drove the fall runs away from the traditional fishing grounds. However, strong northerly winds in the 1890s apparently brought good fishing back to the south shore.[47] Unusually cold weather in the fall caused shore ice and river ice to form which prevented the shipping of fish to Hay River and, therefore, the catch had to be hauled by dog sled at a later date. By contrast, excessively mild weather with alternate freezing and thawing spoiled large quantities of fish in some years.

The remainder of the fish supplies came from daily fishing, occasional fishing excursions to distant locations, quantities received in payment of debt, and purchases from Indians or commercial fishermen. Daily fishing occurred in the Hay River and in Great Slave Lake throughout the year except at break-up and freeze-up. River fishing provided whitefish, northern pike, and pickerel. Also, spring and summer runs of inconnu and suckers were caught for dog food. The river fishing had the advantage that it was close, inexpensive, and produced fresh fish. Gill nets set under the ice on Great Slave Lake from December to early May harvested both whitefish and lake trout. Nets had to be set farther from the shore as the fish migrated into deeper water as the winter progressed. Up to twenty-five nets were set as far as 13 km (8 mi) from shore and yielded a daily catch of as many as twenty-one fish per net. In summer, nets were set in these deeper waters using steamer and motor boat.

Shortages of fish supplies occurred in only seven years[48] between 1893 and 1937 as a result of natural conditions, lack of manpower, poor fishing techniques, and lack of adequate equipment. Surplus quantities of fish occurred in 1908, 1910, and 1925. The site of St. Peter's Mission, therefore, in most years provided a sufficient quantity of cheap fish which helped to feed the large residential school population.[49] This was not the case with the more northern Anglican missions.[50]

Potatoes and Other Vegetable Crops[51]

Missionary staff cultivated fields and gardens close by the mission buildings constructed at the south end of the small Indian settlement on the east bank, only 750 m (½ mi) from the mouth of the Hay River. The fine grained deltaic soil was ploughed as soon as the snow had disappeared from the open fields and the frost had left the ground in May. Potato planting commenced in late May or early June in order to exploit the short growing season. The proximity to the river and Great Slave Lake reduced the incidence of killing frosts during the main growing season. Frosts, more common in September, did little damage except to more delicate crops, tomatoes, and cucumbers. Summer rainfall normally provided sufficient moisture. Indoor planting of seeds and the use of hot beds in early May extended the growing season for less hardy vegetables.

The total production of potatoes varied from 194 bushels in 1896, just after the opening of the school, to 1100 bushels in 1914 (Table V). Poor harvests occurred only in six years. In 1928, killing frosts during the flowering stage reduced production to 300 bushels. Only in 1915 and 1916, were small yields attributed to very dry conditions with cooler than average temperatures. Current climatic parameters, however, indicate an annual moisture deficit. Shortage of seed and reduction of acreage planted also produced small crops in 1927 and 1928. In general terms, there were sufficient potatoes to supply the dietary needs of the pupils.[52]

Other crops produced included carrots, turnips, parsnips, beets, cabbage, peas, beans, celery, radish, onion, cauliflower, tomatoes, and cucumber. All added to the food supply and gave variety to the diet. In 1935, 88½ bushels of assorted vegetables and 800 heads of cabbage were harvested.

Despite the large area of potentially good farmland, only 10 acres were cleared. The main difficulties included the lack of equipment and manpower to do the time consuming work of breaking new land. Lack of feed limited the use of animals. Both animal and manpower were needed for other important tasks in the summer and fall - cultivation of crops, haying, hauling wood, and the fall fishery.

By the late 1920s and early 1930s, the cost of importing food on a regular basis had declined. The possible closure of the residential school made the need for more land uncertain. However, some government funds helped defray the cost of land clearing and there was some suggestion that Hay River should expand its agriculture and supply the proposed school at Aklavkik with fresh food.

Livestock and Hay

Livestock provided the mission with small quantities of meat, eggs, and milk. Horses, oxen, cows, and even dogs ploughed and cultivated the fields, hauled water, ice, wood, hay, and fish and provided transportation. The number of animals kept varied according to the ability to feed them, the need to kill animals to provide emergency food when staple foods were in short supply, and losses caused by disease or accident. Usually, two oxen, two cows, one bull, and two calves as well as approximately twelve dogs were kept.[53]

The main difficulty of maintaining or expanding livestock production was the provision of an adequate supply of feed. Since a major portion of all land cleared produced potatoes and vegetables, there was little land or time left for production of animal feed. Small patches of oats, barley, wheat, field peas, and lucerne provided some grains and green feed. In 1929, 4½ acres of oats and ½ acre of hay were planted. In the mid 1930s, as the number of students decreased, more land was sown for green feed. In 1935, 8 tons of green feed were harvested and 5 tons in 1937.

Some animal foodstuffs, chopped oats, linseed cake, and bran imported from Winnipeg provided food supplements;[54] but the largest single source of feed came from the local hay meadows. The natural meadows along the lake shore, rivers, and sloughs of the Hay River delta grew at the water's edge and flourished as the high spring water levels retreated. The river alluvium naturally enriched the meadow lands but persistant high water levels prevented successful harvests. Total production reached as high as 20 tons in 1935, but the quality of hay produced was often reduced by a high proportion of horse tails (Equisetum). This often led to the death or slaughter of animals because of an inadequate diet.

The need for large quantities of good quality hay forced the mission to search for meadows at more distant locations and spend more time draining local sloughs. In the 1890s and early 1900s, meadows near the mission were used. Later, meadows on Vale Island, at the "Forks" (where the West Channel separates from the main Hay River), on the small islands in the river, and even at Birch Creek had to be used. In the early 1930s, a government lease was taken on a 15 acre island at the mouth of the West Channel in order to secure grazing and hay meadows. Long journeys to Windy Bay and Slave Point on the north shore of the lake were contemplated in order to find more hay.

The site of Hay River, although it did provide some natural meadows for the production of hay, did not secure sufficient quantities to allow for the increase in livestock which would provide more food supplies. The scattered nature of the meadows compounded the problem because of the need for more man and animal power in hauling hay back to the mission. The cost and time involved in clearing new land for field crops was also prohibitive.

Wood

Wood for major projects such as the construction of the new school building in 1917 and its subsequent renovations came from saw mills at Fort Simpson and Fort Resolution. This was not because of a lack of suitable timber, but because Hay River did not have an adequate saw mill.[55]

Large quantities of wood were required to heat the school buildings. Approximately 250 cords were needed each year and this, if possible, had to be cut in the year previous to its use to allow time for drying.[56]

Wood cutting and hauling placed a heavy burden on both manpower and animals and limited the extension of work in agriculture and fishing and the struggle for self sufficiency.

Fuel supplies came from three main sources; driftwood, dry fire-killed standing timber, and new green wood. Driftwood required less cutting and drying and was close to the river banks and lakeshore for hauling by sled or boat. Fire-killed timber could be cut without government permit charges and required little drying and less effort to cut and handle. It was hauled from the banks of Hay River, Vale Island, and even from Birch Creek. Green wood, both spruce and poplar, although requiring a wood permit and more drying could be cut wherever it was most suitable and rafted down the river to the mission.[57] Wood camps were located 5 km (3 mi) upstream on the east bank of the river and on Vale Island.

The only shortages of wood occurred in the winters of 1923-24 and 1927-28 as a result of staff changes and forest fires.[58]

Building Sites

The actual building sites of St. Peter's Mission lay close to the east bank of the river. This short steep bank provided sufficient protection from all but the most exceptional spring floods (1904, 1911, 1914, 1923, and 1934).[59] In these years damage was minimal except in 1914 when water entered the main school building. As a result of this, the site of the new school completed in 1917 was moved farther away from the river bank.

River bank erosion, particularly during spring, slowly reduced the size of the mission property. High water in the early 1920s led to the undermining of one house and its relocation to a more secure site away from the river edge. Slow erosion cut down the size of the potato field in front of the mission buildings.

The main disadvantage of the building sites was not the flood hazard but the subsoil of the foundations. Vale indicated that there was quicksand at about five feet (1.5m) and that large timbers at ground level had to be used to provide a bearing surface for the new school building.[60] By 1923, this new structure, which had been considered the best in the N.W.T., lay in such disrepair that the Missionary Society wanted to replace it. The building had sunk on its foundations causing buckled walls and poorly fitted windows and doors. The reference to "quicksand" probably indicated the presence of ground ice which melted on exposure to air or increase in soil temperature. Beneath the school building, large basement rooms or cellars were excavated to provide storage for food and equipment. The school received heat from large wood furnaces and these probably slowly heated the subsoil causing gradual melting of the ground ice and slow subsidence of the building.

A suitable site for a new building was found 5-6 km (3-4 mi) up the Hay River where stone for a foundation and building timbers could be found.[61] However, because of the possibility of relocating the residential school in the Mackenzie Delta, at this date neither the Missionary Society nor the Department of Indian Affairs wanted to spend unneccesary money on a new building at Hay River.[62] In the summer of 1925, the foundations were repaired and the building renovated. The building continued to provide accommodation until 1937 when the residential school was transferred to Aklavik.

Summary

Although St. Peter's Mission grew to be the educational center for the Diocese of Mackenzie River, it was neither located at the geographical center of the Diocese of Mackenzie River nor near the center of the Anglican population within the Diocese. Even in the late 1890s and the first few years of the twentieth century, pupils came from as far north as Fort Norman. Subsequent to 1906, the single main source of students was Fort McPherson and the Arctic Coast area. St. Peter's Mission lay astride the main route between the Arctic Ocean and Edmonton. This situation enabled students to be brought south to Hay River although at great expense, and staff and supplies imported from southern Canada on a more reliable and cheaper basis than to the more northern missions. The situation of Hay River within the boundaries of Treaty 8 gave St. Peter's Mission access to financial support from the Canadian Government, but any proposals for the relocation of the residential school were subsequently linked to the policies and financial support offered by the Department of Indian Affairs.

The location of the Diocesan School at Hay River was strongly tied to the ability of the site to provide those resources which would make the school as self-sufficient as possible. The presence of a reasonably constant supply of fish, and soil and climate conditions suitable for the production of adequate supplies of potatoes enabled the school to support a large number of students. The factors which restricted the full use of the potential of the Hay River site were mainly the lack of manpower suited to the necessary tasks and the lack of capital equipment such as boats, tractors, saw mills, and agricultural implements. The inability to increase manpower and capital relate to the overall policies of both the Missionary Society and the Department of Indian Affairs dealing with finances.

Therefore, the Diocesan residential school remained at St. Peter's Mission, Hay River, because of the advantages of the site and the difficulty of relocating at a place in the Lower Mackenzie close to the center of the Anglican population. In the first two decades of the twentieth century, this relocation was hampered by the expensive and poor transportation along the Mackenzie River system, the relatively limited resource base of the Lower Mackenzie with respect to feeding a large school population, and the lack of Treaty arrangements within that area.

The decline of the situational advantage of Hay River as the Diocesan educational center and the impetus for the relocation of the residential school in a more northerly settlement came in the 1920s with the signing of Treaty 11, the improvement of water and air transportation, and the increase in competition in the Mackenzie Delta by the Roman Catholic Church. Increasing site disadvantages (deterioration of buildings because of permafrost and the decrease in benefit of locally produced food supplies) at Hay River were also factors influencing the relocation. The policy of the Missionary Society became that of "extension through concentration". Therefore, the Missionary Society concentrated its efforts in the Mackenzie Delta and the more distant settlements like Hay River were essentially abandoned in order to increase and spread its influence from the new focal point at Aklavik.

The mission school at Hay River continued to serve the local community on a sporadic basis until the opening of the Federal Day School in 1949.

Footnotes

[1] Synod, Arctic, M71-4,II,1(b), Attendance Register, St.

Peter's, Hay River 1895.

[2] Margaret Tims, the first full time teacher, received a salary of $550 for the 30 months prior to June 30, 1899, Canada, Report of the Auditor General for the Year Ending June 30, 1899, Department of the Interior, Expenditures of Lieutenant Governor for Schools in Unorganized Districts, Northwest Territories (Ottawa, 1901), p. L-44.

[3] Synod, Arctic, M71-4, II 1(b), Attendance Register, St. Peter's, Hay River 1900-1904.

[4] AA, Diocese of Athabasca Papers (Abbrev. DA), A22/2/g, Chronological Account of Events 1858-1926, Diocese of Mackenzie River. This document provides a yearly account of activities of missionary staff.

[5] Synod, Arctic, M71-4, II, Vale, pp. 14, 20.

[6] Canada, Treaty No. 8 made June 21, 1899 and Adhesions, Reports, Etc. (Ottawa, Queen's Printers, 1900), pp. 6, 13.

[7] The first per capita grant amounted to $72 per student, Canada, Report of the Auditor General, 1902-3, Department of Indian Affairs, Treaty 8 Expenditures, (Ottawa, 1903), p. J-66. Much discussion took place throughout the period as to who was eligible for a grant and how much the grant should be. The importance of these grants is illustrated by the fact that the Roman Catholic Church discussed the removal of part of its successful school at Fort Providence to Hay River in order to receive financial benefit from Treaty 8 as well as compete with the Anglicans. However, it only constructed a church and house there in 1900 but in 1903 it built a new residential school at St. Joseph's, Fort Resolution, Robert J. Carney, "Relations in Education Between the Federal Government and Territorial Governments and the Roman Catholic Church in the Mackenzie District, Northwest Territories, 1867-1961," (Ph.D thesis, The University of Alberta, Edmonton, 1971), pp. 81-84; Archives of the Vicariate of the Mackenzie, Fort Smith, Codex Historicus, O91CHH424, Mission Ste. Anne, 1869-1914.

[8] SA, St. Peter's Mission Papers (Abbrev. SPM), Annual Report, St. Peter's Boarding School, Hay River, 1917.

[9] PAC, Indian Affairs, RG10, vol. 6472, file 905-1, part 1, Mackenzie River Diocese, St. Peter's Boarding School, Hay River, Pupils in Attendance, November 1906.

[10] AA,DMR,MR150/11 List of Children for Indian Department Grant, August 19, 1921. Home communities of students listed were kindly identified by Mrs. R. Mackie, Mrs. P. Camsell, and Miss S. Sibbeston, former students of the school.

[11] Boon, Chapter 10, "The Farther Northwest-Athabasca-Mackenzie River-Yukon" gave an account of the expansion; the increase in number of baptisms and confirmations is shown in Chronology Accounts of Events 1858-1926, AA,DA,A22/2/g.

[12] Wolforth, pp. 41-43, 131-32. Morris Zaslow, *The Opening of the Canadian North 1870-1941*, (Toronto: McClelland and Stewart, 1971), pp. 224-248.

[13] Although a variety of crops and animals can be raised in the Lower Mackenzie the main difficulty was the assurance of a sufficient supply that could be relied upon and the cost effectiveness of production; see Mackinnon for a discussion of agriculture and horticulture in the Mackenzie District.

[14] See Robinson, November 1945 and Trevor Lloyd for details of the physical characteristics of the Mackenzie River system and its transportation facilities and difficulties, Trevor Lloyd, "The Mackenzie Waterway: A Northern Supply Route," *Geographical Review* 31 (1943): 415-34.

Numerous other examples of delays include, in the fall of 1928 low water caused the S.S. *Mckenzie River* to take six weeks on a return trip from Aklavik to Fort Smith; the Hay River supplies were delayed until September 1 in 1913 because of storm conditions on Great Slave Lake; the S.S. *Wrigley* was caught in ice on Great Slave Lake for six days in late June, 1907, AA,DMR,MR4/4-6, Journal of St. Peter's, Hay River.

[15] The S.S. *Wrigley II* built in 1895-6, length 96 ft.; beam 16 ft; cargo capacity 30 tons was superseded by the S.S. *Mckenzie River* built in 1908, length 126 ft; cargo capacity 100 tons (Steamships operated by Hudson's Bay Company in Mackenzie River Watershed, Hudson's Bay Company Library, Hudson's Bay House, Winnipeg, CPW/mh27.12.56).

[16] Innis, pp. 348-49;Fullerton Waldo, *Down the Mackenzie Through the Great Lone Land* (New York: The Macmillian Company, 1923), pp. 167-71.

[17] AA,DMR,MR.138/20 Hudson's Bay Company Transport Service to Bishop Lucas, July 20, 1911, MR.138/22 Hudson's Bay Company Transport Service to M.J. Osler, 1912.

[18] AA,DMR,MR.134/14, Summarized Statement of Freight Account from Hay River Mission in 1908, A.J. Vale, September 2, 1908; Hudson's Bay Company to Rev. H.L. Day, Fort Simpson, August 17, 1908; Hudson's Bay Company to Rev. C.E. Whittaker, Peel River, July 15, 1908.

[19] AA,DMR,MR.138/37, Hudson's Bay Company, Transportation Service Rates 1914.

[20] SA,SPM, Vale to Lucas, January 10, 1914; orders for supplies had to be sent south before December in order to receive the supplies by boat in the following summer but it was not often known until that summer how many students were available to attend the school. Decision making was therefore not very flexible.

[21] AA,DMR,MR.150/11, List of Children for Indian Department Grant, August 1922.

[22] SA,SPM, Vale to Secretary, Indian and Eskimo Commission, Missionary Society of Church of England in Canada (Abbrev. MSCC) March 14, 1927.

[23] AA,DMR,MR.4/10, Journal of St. Peter's, Hay River, August 27, 1937.

[24] By 1923, the Department of Indian Affairs indicated its intention of not providing regular transportation funds for students. It did pay for transportation of destitute children, SA,SPM, Westgate to Principals, November 22, 1923.

[25] AA,DMR,MR.200/71, McLean to Lucas, September 26, 1922.

[26] Between 1915-1918 Peace River Crossing, on the Peace River replaced the Athabasca Landing as the head of navigation as a result of the construction of a branch line north from the Edmonton, Dunvegan and British Columbia Railway. The Alberta and Great Waterways Railway incorporated in 1909 linked Edmonton with Lac La Biche in 1916, the Christina River in 1919, Draper in 1922 and Waterways in 1925. As early as 1919 some freight was redirected back to the Athabasca and in 1922 the Hudson's Bay Company was shipping freight north from Waterways, John W. Chalmers, editor, The Land of Peter Pond, Occasional Publications Number 12 (Edmonton: Boreal Institute for Northern Studies, The University of Alberta, 1974), pp. 78-80.

[27] AA,DMR,MR.138/54, Hudson's Bay Company to Lucas, September 20, 1922.

[28] In 1926 the average cost to transport a student to or from Fort McPherson amounted to $43.30, SA,SPM, Ferrier to Westgate, February 24, 1927.

[29] Contracts between parents and required students to stay for a minimum number of years, often 3-4 years or longer. The school was very reluctant to send students home before the specified date and parents sometimes paid for the return fares. Parents were fearful children may die away from home (Several students died of T.B. or accidents). Parents argued that if the Roman Catholic Church could build a school in the Delta so could their own church. AA,DMR,MR.200/44, Crissal to Lucas, February 6, 1924; SA,SPM, Vale to West-

gate, July 10, 1926.

[30] Synod, G-2. 75-103, Minutes of the Board of Management, MSCC, September 1924.

[31] AA,DA,A.22/2/g Chronological Account, 1919-26; Carney, pp. 140, 142, 160, 172, 218; Richard Finnie, Canada Moves North (New York: Macmillan Co., 1944), pp. 75-77.

[32] Synod, G-S.75-103, Report of General Secretary, MSCC to Board of Management, 1935.

[33] AA,DMR,MR.4/6, Journal of St. Peter's, August 4, 1929; Diamond Jenness, Eskimo Administration: II Canada, Technical Paper No. 14, (Montreal: Arctic Institute of North America, 1964), p. 42; PAC,RG10, vol. 6472, file 905-1, part 1, "Northern Lights", May 1931.

There were still antagonistic feelings between Loucheux and Eskimo (Inuit) people and school officials felt that a hasty construction of a joint school might not be successful, Synod, G-S.75-103, Minutes of Indian and Eskimo Commission, MSCC, March 27, 1928.

[34] Details of improvement of transportation are found in Morris Zaslow, "A History of the Mackenzie Basin, 1920-40," (Ph.D. thesis, University of Toronto, 1957); in 1938, Northern Transportation Company Ltd. and the Hudson's Bay Company together provided at least three trips to Aklavik, Dudley Copland, Livingstone of the Arctic (Lancaster, Ontario: Canadian Century Publishers, 1967), pp. 126-131.

[35] AA,DA,A320/536, The Mackenzie River Basin and Arctic Ocean, 1936, Hudson's Bay Transportation Schedule.

[36] AA,DA,A320/876, Scheduled Tariffs, Mackenzie Air Service, 1940, A320/536, Mackenzie River Transport Down North Season, 1940.

[37] "Review of Air Mail Service," Canadian Aviation 9 (March 1936): pp. 6-7.

[38] SA,SPM, Westgate to The Deputy Superintendent General, Department of Indian Affairs, April 25, 1935.

[39] AA,DMR,MR.4/10, Journal of St. Peter's, August 27, 1937. The youngest students were sent first as the staff felt that they would mix more easily with the Inuit students.

[40] In 1930 there had been eight deaths due to tuberculosis; a few students however went to Aklavik, AA,DA,A320/934, Singleton to Sovereign, March 30, 1937, A320/457, Singleton to The Secretary of Indian and Eskimo Commission, March 30, 1937.

[41] SA,SPM, Sovereign to Gibson, August 16, 1937; Carney, pp. 373-79.

[42] Synod, GS.75-103, Report of the General Secretary to Board of Management of MSCC, 1935.

[43] Winter Dietary Scale per Student.
Monday, Wednesday, Friday - 3 fish, 24 potatoes, ½ pint tea, 3 oz. bread; Tuesday, Thursday - 2 fish, 20 potatoes, ½ pint tea, 8 oz. bread, ½ oz. bacon; Sunday - 3½ oz. oatmeal, milk in season, 2 fish, 20 potatoes, 8 oz. rice pudding; Country Food (meat) 3½ lbs per week in addition to other food caught muskrats, rabbits, and fowl; Summer Diet - more milk, flour, and rice less potatoes and beans; Tubercular Patients - Two extra light meals with special milk, bread and porridge, and cocoa, beef, tea and cod liver oil, Synod, Arctic, M71-4, II (1c), 1910-14, Vale to McLean, July 26, 1910; in the period December 15, 1918 to June 15, 1919, the fish and potatoes of the students diet were supplemented with 100 lbs peas, 500 lbs beans, 3500 lbs. flour, 298 lbs. rice, 325 lbs oats, 30½ lbs bacon, and smaller quantities of a few other foodstuffs, AA,DMR,MR.200/74, School Mess Account - December 15, 1918 - June 15, 1919.

[44] PAC,RG10, vol. 6472, file 905-5, part 1, Vale to Carol, November 1918.

[45] Information regarding fishing came from AA,DMR,MR.4/1-10 Journal of St. Peter's, MR.150/9-11, Diocese of Mackenzie River Statistics; Synod,Arctic, M71-4, II (h), Fishery Report; Canada, Department of Indian Affairs Annual Reports. The same sources were used for information on other resources at Hay River.

[46] The fish caught mainly in gill nets were split open and deviscerated and then placed in groups of ten on a slender stick. These sticks of fish were hung on an elevated rack away from the reach of dogs and other animals. Here the fish slowly dried or froze and therefore preserved for the winter.

[47] see footnote 26, Chapter 5.

[48] 1903, 1911, 1916, 1920, 1927, 1928 and 1929.

[49] Krech in comparing ethnographical data from informants and data from St. Peter's Mission suggests that fish supplies were inadequate, however he failed to take into consideration the supplies of fresh fish caught throughout the year. There is little data on the amounts of fish caught by daily fishing but daily fishing employed mission staff throughout the year. Shepard Krech, II,"Nutritional Evaluation of a Mission Residential School Diet: The Accuracy of Informant Recall," Human Organization 37, 2, (Summer, 1978): 186-190.

[50] Traditionally fish supplies at Fort Simpson had been inadequate; Wynne-Edwards states that although fish were caught for both human and dog consumption along the Mackenzie River, the river is not equally productive throughout. Between Providence and Fort Good Hope the river is relatively barren compared with the lower river. Even in the lower river people were dependent on the summer fishing and fall fisheries and only insignificant amounts were caught in winter. The deep Great Slave Lake gave this added benefit, Canada, *Annual Report of the Fisheries Research Board of Canada for the Year 1944*, Appendix Vi, part B, V.C. Wynne Edwards, Mackenzie River and Great Bear Lake Investigations, Reports for 1944 of the North West Fisheries Investigations (Ottawa, 1945).

[51] see footnote 45.

[52] Krech, 1978.

[53] Horses were kept between 1909-1912 and from 1927 onwards. Pigs and hens were kept 1903-07 but killed by dogs and fire; see footnote 45.

[54] SA,SPM, Assistant Secretary Treasurer, Missionary Society of Canada to Lake of the Woods Milling Co. Ltd., April 29, 1926.

[55] Fort Simpson and Fort Resolution had government supported saw mills, AA,DMR,MR.200/72, Vale to Scott, February 28, 1915, PAC,RG10, vol. 6472, file 905-S, part 1, Extract of monthly reports of Indian Agent, C. Bourget, Fort Resolution, February 12, 1924.

[56] In 1925, 45 cords were used in January, 42 in February, 30 in March and 16 in April, SA,SPM, Vale to Westgate, February 12, 1925, March 16, 1925; Statement of Accounts March and April, 1925.

One cord of wood measured 8 ft x 8 ft x 4 ft or 128 cubic feet ($3.6m^3$).

[57] Wood permits for fire killed standing timber were issued free to institutions but greenwood permits cost 75¢ per cord for spruce and 50¢ per cord for poplar, SA,SPM, Westgate to Finnie, May 7, 1925.

[58] Severe fires in 1927 burned large areas of standing timber or Vale Island and on the east bank of the river and also destroyed 200 cords of wood stacked in the previous winter.

[59] Flood waters brought ice onto the fields, destroyed fences, dislodged boats and equipment but caused no major structural damage.

[60] AA,DMR,MR.200/76, Vale to Lucas, December 21, 1914.

[61] PAC,RG10, vol. 6472, file 905-5, part 1, Notes on Requirements, VIII, Hay River, Westgate to Department of Indian Affairs, November 30, 1923.

[62] PAC,RG10, vol. 6472, file 905-5, part 1, Westgate to Secretary of Indian Affairs, June 24, 1924, Scott to Stewart, June 30, 1924.

CHAPTER VII

THE SITUATION OF HAY RIVER ON A POTENTIAL OVERLAND ROUTE TO NORTHERN RESOURCES, 1920-1930s

The fur trade within the District of Mackenzie expanded steadily in the early twentieth century. Access to the area improved with the construction of railways to Athabasca Landing in 1912, Peace River in 1915, and Waterways in 1925. The number of nonnative trappers increased after the Klondike gold rush and Norman Wells oil boom ended because would-be miners turned to the fur trade as a livelihood. The rise of fur prices during the First World War and in succeeding years attracted more people to the industry. The Hudson's Bay Company expanded its activities in all parts of the District of Mackenzie and was opposed by several large companies and many independent traders especially in the 1920s.[1]

Apart from the growth of the fur trade there was an increase in mining exploration within the Mackenzie Valley and the adjacent Canadian Shield (Fig. 17).[2] Miners enroute to the Klondike rediscovered many of the indications of mineralization noted by the explorers and scientists of the early nineteenth century and this led to more intensive prospecting and development. Initial exploration of lead and zinc deposits at Pine Point, 80 km (50 mi) east of Hay River began in the 1910s. Oil and gas exploration that commenced

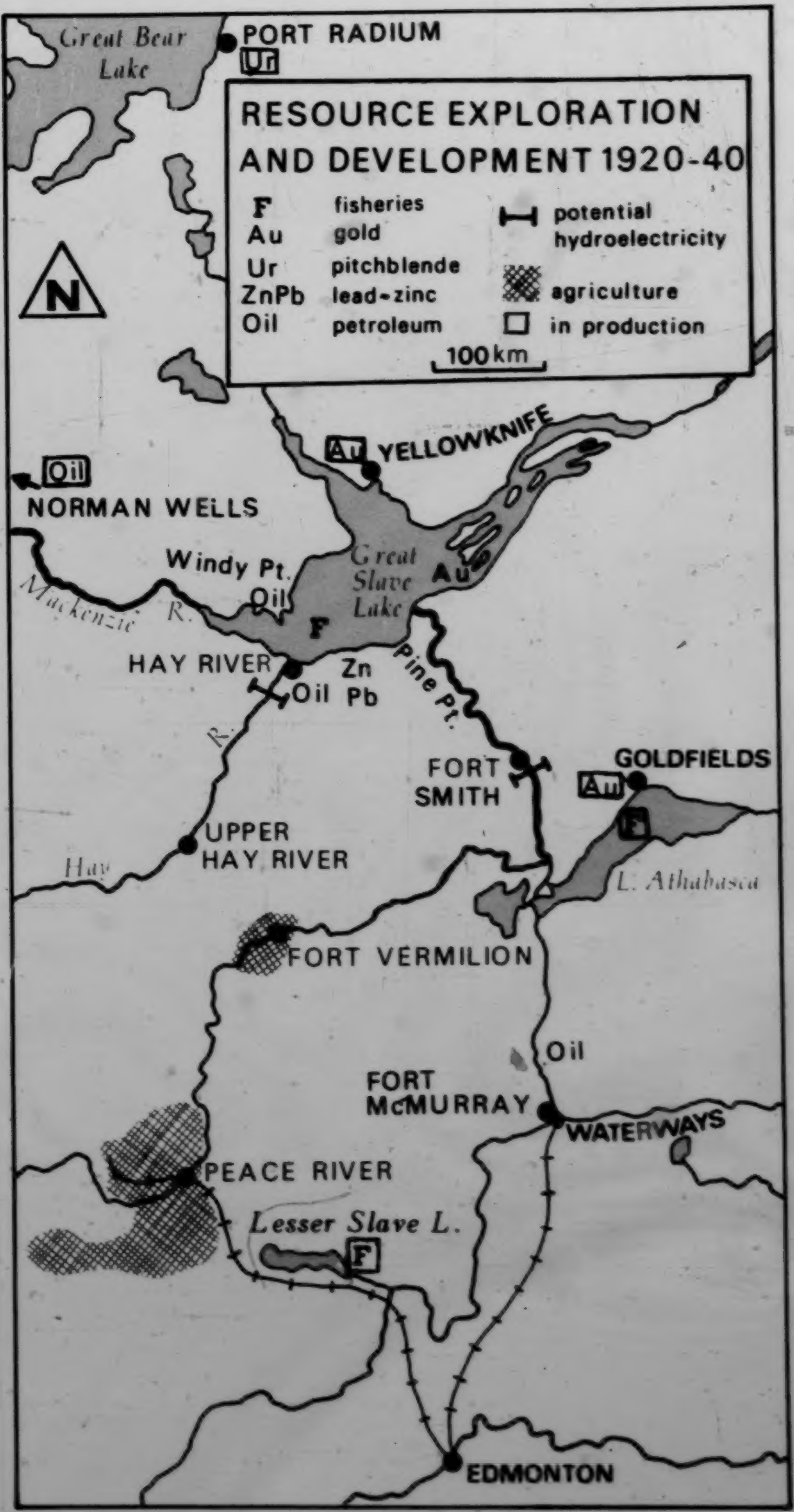

RESOURCE EXPLORATION AND DEVELOPMENT 1920-40
F fisheries
Au gold
Ur pitchblende
ZnPb lead-zinc
Oil petroleum
potential hydroelectricity
agriculture
☐ in production
100 km
N
Great Bear Lake
PORT RADIUM
Ur
Au
YELLOWKNIFE
Oil
NORMAN WELLS
Windy Pt.
Oil
Great Slave Lake
Au
F
Mackenzie R.
HAY RIVER
Zn Pb
Oil
Pine Pt.
R.
FORT SMITH
GOLDFIELDS
Au
F
L. Athabasca
UPPER HAY RIVER
Hay
FORT VERMILION
Oil
FORT McMURRAY
WATERWAYS
PEACE RIVER
Lesser Slave L.
F
EDMONTON

Figure 17

in 1914 reached a peak in the early 1920s following the oil strike at Norman Wells in August 1920. Drilling in promising structures at Windy Bay north of Hay River and in the Hay River Valley, 20 km (12 mi) from the settlement yielded no oil. The oil wells at Norman Wells were capped because of the absence of an adequate local market. The discovery of silver and pitchblende on the eastern shore of Great Bear Lake led to a flurry of activity along the edge of the Canadian Shield between Great Bear Lake and Great Slave Lake. Mines commenced the production of pitchblende concentrate in 1933 and the first gold brick was poured at Con Mine in Yellowknife in 1938. By the late 1930s the value of minerals produced outstripped that of fur sales for the first time in the history of the District of Mackenzie.

Hay River and its Situation on the Traditional River Routes

With the expansion of the fur trade, a slow improvement of transportation occurred along the traditional waterways north of Athabasca Landing and Peace River. By the 1920s, the major fur companies had their own paddle steamers, tugs, and barges to supply their northern posts. As a result, the northern population experienced slowly improving freight and mail service with southern Canada. However, the bulk of the freight went to the fur posts and there was no need for major changes in the traditional system of water transportation. It was possible to resupply fur posts by one or maybe two trips down the Mackenzie River system each year. Slow-moving wood burning paddle steamers were adequate for carrying the trade goods north and the small cargo of furs upstream against the current.

Government surveys and placement of navigation aids in harbors and river channels improved the waterway. Private ventures upgraded the Fitzgerald-Fort Smith portage around the Slave River rapids and the Government of Alberta completed the extension of rail service to the new head of navigation at Waterways at the junction of the Clearwater River and Athabasca River in 1925.[3]

The sheltered harbor at Hay River that had been utilized by the early fur brigades became an important stopover point on the Mackenzie River system. Paddle steamers replenished their fuel supplies before proceeding to the next supply point at Fort Providence or in the Slave River Delta. During the winter months fur companies brought in laborers to Hay River or hired local men to cut cordwood from the stands of spruce and poplar along the channels of the river delta. The harbor continued to provide a safe refuge from heavy ice conditions or rough water. To provide better access, the Canadian Government surveyed the river entrance and set up navigation markers and lights in 1921.[4]

Because Hay River was an important port of call on the waterways, several companies built small trading stores to serve the local Indian population and nonnative trapper. By the early 1920s, the Hudson's Bay Company, Lamson and Hubbard Company, and Northern Traders as well as two independent traders competed for furs.

Although the slowly expanding water transportation system fulfilled the needs of the fur industry, it did not provide adequate service for government departments, missions, and the rapidly expanding mining industry especially in the 1930s. Unlike the fur companies, the mining industry required a transportation system which could effectively move large quantities of bulky freight (fuel, timber, food and machinery), mine workers, and processed ores on a year-round basis to more remote areas. The mining industry faced many of the same problems of water transportation as the missions and government departments. Water transportation was seasonal, slow, infrequent, and unreliable because of inherent problems of the water route itself and variations in weather conditions. Apart from these general problems, the enclosed decks of the paddle steamers made the loading of bulky mining equipment difficult. The underpowered paddle steamer was not able to carry large cargoes up the Mackenzie River or Bear River, push through ice, navigate rough water on Great Bear Lake and Great Slave Lake where most of the new mines were located.

To offset these difficulties, the Hudson's Bay Company utilized open barges which could be easily loaded and pushed along by paddle steamer or tug except in rough water. The mining industry developed a transportation company to serve both the Great Bear Lake and Great Slave Lake mining areas.[5] The Northern Transportation Company, incorporated in 1934, built a fleet of high powered diesel tugs and barges to provide a more efficient service for the expanding mining industry and the general public.[6] With the advent of regular air services in the District of Mackenzie in 1929, more and more of the passenger service was diverted from the paddle steamer.[7] Therefore, more capital investment could be made in tugs and barges because less passenger accommodation was required.

In spite of these improvements in water transportation, the mining industry looked for other methods of transportation to complement water transportation in order to provide a more efficient system to serve the expanding mining frontier. Air transport effectively carried passengers and some freight, but there was a need for some system of more direct overland transportation.

The situation of Hay River on a potential overland route linking northern resources to established rail and road systems

The Hay River Valley forms a natural route linking Great Slave Lake and the Peace River Valley. In the early nineteenth century, it formed a transportation corridor for the North West Company and, in the 1870s, the Hudson's Bay Company post at the mouth of the river protected the valley against the "free trader" who could have used it as a "short cut" into the Mackenzie Valley. Missionaries took advantage of this short overland route when travelling from their missions in the Peace River Valley to those in the Mackenzie Valley. It was this route that eventually became a potential transportation corridor linking the established southern road and rail systems to the expanding frontier of northern resources.

Numerous individuals or small groups of explorers, prospectors, traders, and trappers used the route throughout the period 1898-1935. Most journeys seeking a short distance route to fur and mineral resources were made in a northerly direction.[8]

Several government geographical, geological, and topographical surveys of the Hay River Valley and the adjacent 6th Meridian weremade between 1914 and 1930.[9] All parties entered the valley via the wagon road leading to the Upper Hay River Post from Fort Vermilion. Although some surveys indicated the potential for agriculture in the Upper Hay River Valley if a railroad were built, none suggested the use of the valley as a direct overland route to the District of Mackenzie.

Royal Canadian Mounted Police personnel stationed at both Fort Vermilion and Hay River made periodic patrols between the two communities between 1909 and 1933.[10] Their patrols followed the traditional route via the Upper Hay River Post and the Hay River Valley as well as the direct trail north of Fort Vermilion across the Caribou Mountains to Buffalo Lake and Hay River. Side trips were made to Lake Bistcho which was in turn linked to Fort Providence by winter trails leading across the Cameron Hills. These winter patrols by dog team slowly added to the knowledge of the Hay River Valley and its potential as a transportation route.

The construction of the Central Canada Railway to Peace River in 1915 brought more agricultural settlers into northwest Alberta and led to the slow improvement of fur trade trails. By the early 1920s, the wagon road from Fort Vermilion to Upper Hay River Post had been improved and pack trails extended upstream to trading posts at Hay Lake. South from Hay Lake another trail followed the Chinchaga River to Keg River Post. A rough wagon road linked Peace River to Fort Vermilion by way of Notikewin and Keg River Post.[11] By 1930, the section north to Notikewin had been upgraded to a dirt road and a telegraph line followed the whole routeway to Fort Vermilion.[12]

This slow improvement of overland routes in northwest Alberta as far north as Upper Hay River Post (Meander River) significantly reduced the gap between Great Slave Lake and the northern end of the Alberta road and rail system (Fig. 18). Those developers wishing to exploit the resources of the District of Mackenzie saw the advantage of northwest Alberta as a gateway or corridor leading north with fewer inherent problems than the traditional waterway from Waterways on the Athabasca River.[13] Several railway companies, eager to tap the wealth of northwest Alberta and the newly discovered mining areas of the north, proposed and surveyed routes into the District of Mackenzie (Fig. 19). Two proposals extended the railway northwest of Waterways but the majority planned to extend the railway north of Peace River to Hay River to take advantage of the drier terrain, more level grades, and the agricultural and timber resources of northwest Alberta. None of these proposals went beyond the

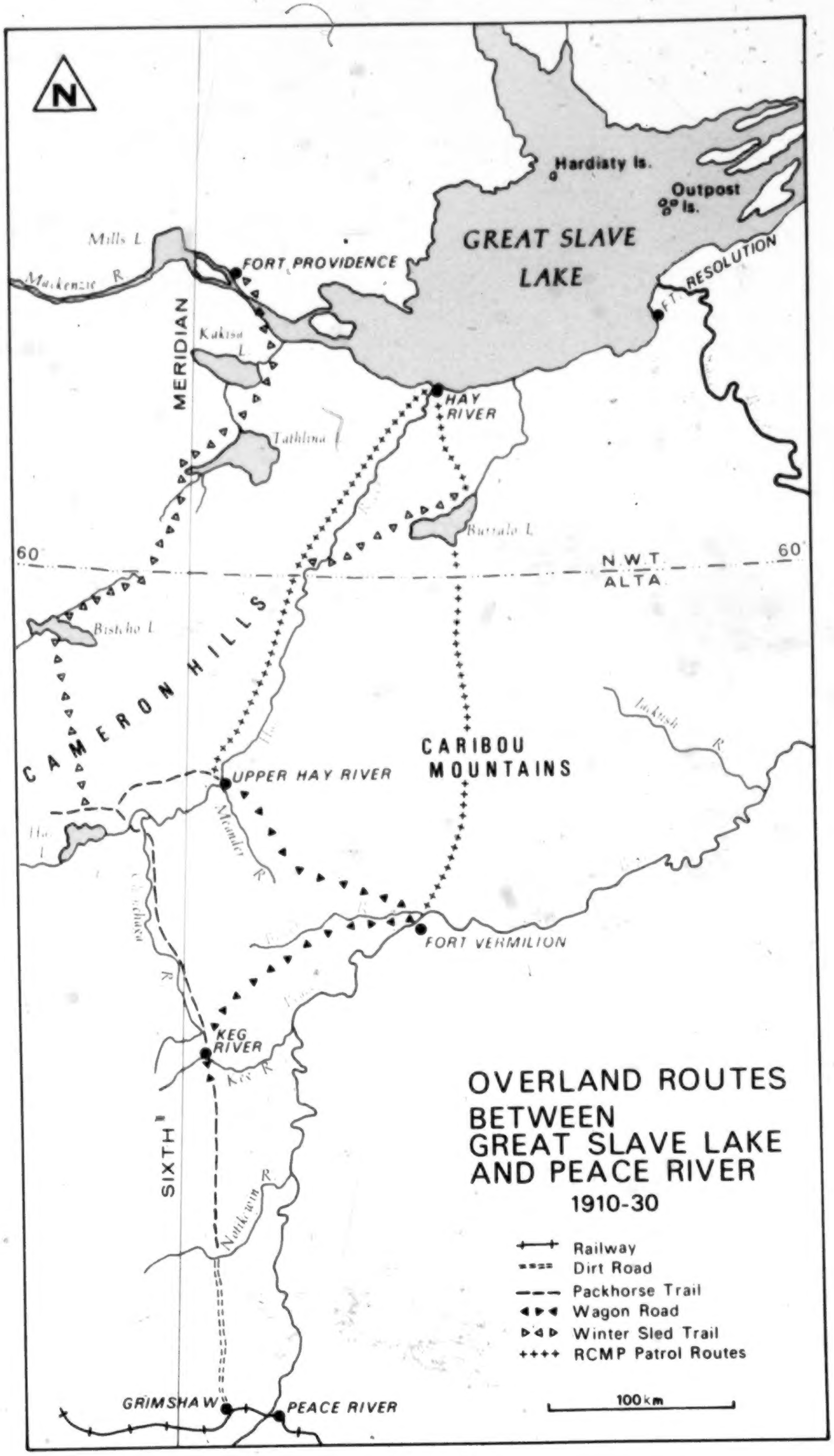
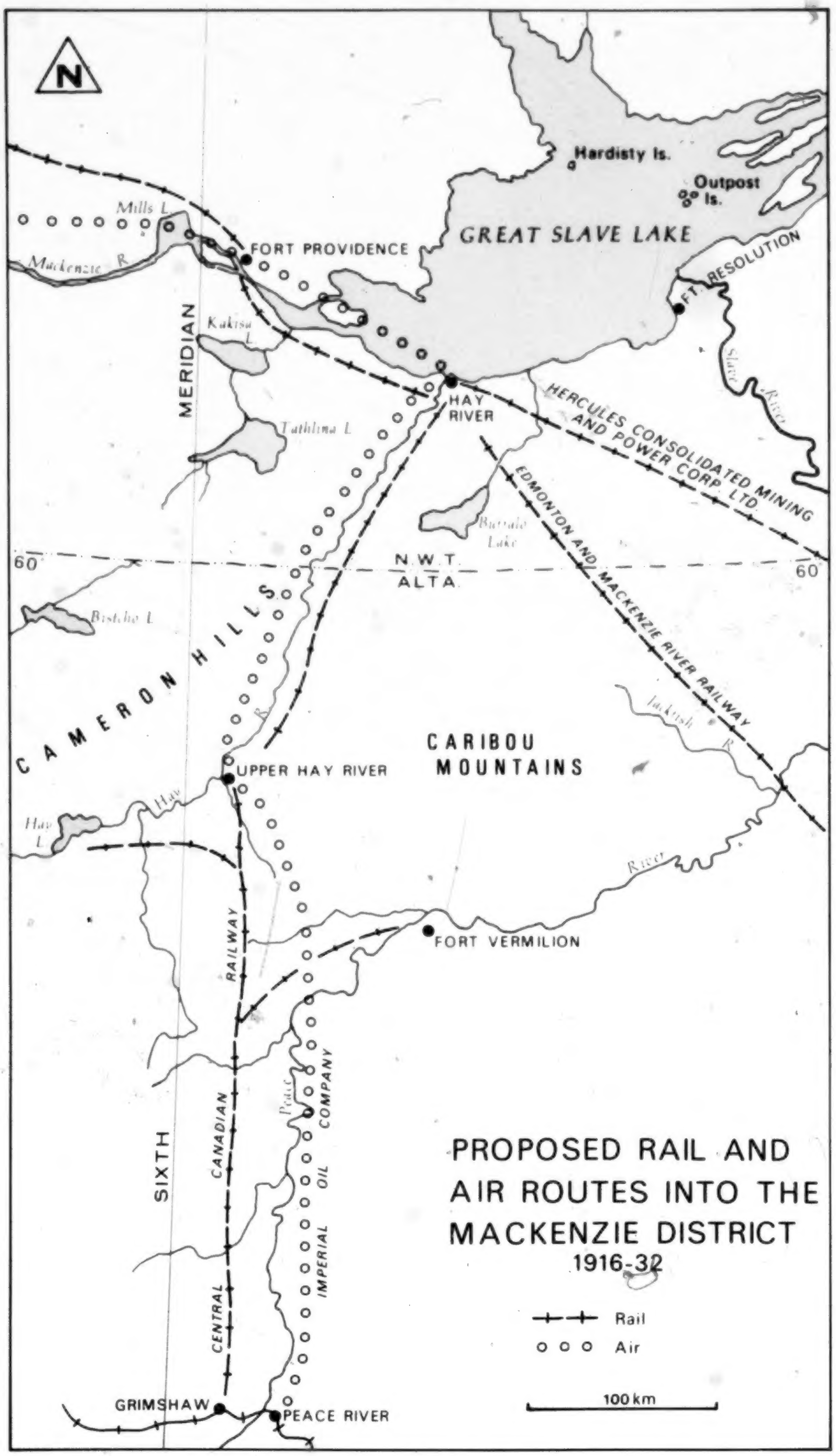

N
Hardisty Is.
Outpost Is.
GREAT SLAVE LAKE
Mills L.
Mackenzie R.
FORT PROVIDENCE
FT. RESOLUTION
MERIDIAN
Kakisa L.
HAY RIVER
Tathlina L.
Buffalo L.
60°
N.W.T.
ALTA.
60°
Bistcho L.
CAMERON HILLS
Jackfish R.
CARIBOU MOUNTAINS
UPPER HAY RIVER
Meander R.
FORT VERMILION
KEG RIVER
Keg R.
SIXTH
Notikewin R.
GRIMSHAW
PEACE RIVER
OVERLAND ROUTES BETWEEN GREAT SLAVE LAKE AND PEACE RIVER 1910-30
Railway
Dirt Road
Packhorse Trail
Wagon Road
Winter Sled Trail
RCMP Patrol Routes
100 km

Figure 18


N
Hardisty Is.
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GREAT SLAVE LAKE
FT. RESOLUTION
Mills L.
FORT PROVIDENCE
Mackenzie R.
Kakisa L.
MERIDIAN
HAY RIVER
Tathlina L.
Slave River
HERCULES CONSOLIDATED MINING AND POWER CORP. LTD
EDMONTON AND MACKENZIE RIVER RAILWAY
Buffalo Lake
60°
N.W.T.
ALTA.
60°
Bistcho L.
CAMERON HILLS
Hay R.
CARIBOU MOUNTAINS
Jackfish R.
UPPER HAY RIVER
Hay L.
Hay
River
FORT VERMILION
RAILWAY
Peace
COMPANY
OIL
IMPERIAL
CANADIAN
CENTRAL
SIXTH
PROPOSED RAIL AND AIR ROUTES INTO THE MACKENZIE DISTRICT
1916-32
Rail
Air
100 km
GRIMSHAW
PEACE RIVER

Figure 19

planning stage but indicated the desire for overland routes to supercede water transportation.[14]

The route north from Peace River to the District of Mackenzie was seen to be feasible not only for overland transportation but for air transportation as well (Fig. 19). In March 1921, Imperial Oil Company Ltd. made the first flight into the Northwest Territories from Peace River to Fort Simpson via Fort Vermilion, Upper Hay River Post, and Hay River.[15] Similar flights reached Norman Wells during the summer. However, this air service ended when the Norman Wells oil discovery did not expand into a major commercial field. When air services resumed in 1929, they linked the settlements along the traditional waterway north from Waterways. Not until late 1938, following the development of the Yellowknife mining area, did an aircraft company, Peace River Airways Ltd., offer a scheduled service along this north-south axis linking Peace River, Fort Vermilion, Hay River, and Yellowknife.[16]

The growing concern for the development of a transportation route overland from Peace River to the District of Mackenzie gained momentum throughout the 1930s as settlement increased in the Peace River District, as new mines opened in the Great Bear Lake and Great Slave Lake area, and increased pressure was put on the water transportation. The Bear Lake Miner and Northern News, a monthly magazine devoted to northern development, boldly proclaimed the advantages and need for this overland route.

> In light of the coming development of the Great Bear Lake mines it is only a question of time when connection will be made by either road or rail with these fields. A railway at the present time, will no doubt be classed as being out of the question for many years although once tonnage is developed, it is bound to come. Major L.T. Burwash, famous northern explorer states that the logical rail or road route to the mining field is via Peace River, Hay River and Fort Providence, crossing the Mackenzie River at this point and thence onto Great Bear Lake. Maps and surveys of the country to be passed through show practically a prairie grade. The route would open up many miles of new agricultural territory, would commence to strike mineralized country at Hay River, if not before, for there are already large bodies of commercial ores discovered at Dawson Point on Great Slave Lake. In addition it would develop a still greater fishing industry and give access to some of the greatest hydro power possibilities in Canada, namely the Alexandra and other falls on the Hay River . . . It would mean about 200 miles of new construction . . . to the head of the Mackenzie at Providence . . . with modern motor conditions, modern motor stages could make from Peace River to the Mackenzie in two days, or less with ease . . .
>
> With Governments endeavouring to grapple with the relief problem, what better proposal . . . It would employ a number of men, give them new ideas about the country passed through eventually meaning that many would settle on the land . . .
>
> Its completion would furnish easy transportation to the Head of the Mackenzie River, six weeks or more earlier than the present water route. 17

As the fur trade developed and the mining industry advanced into the northern territory, the position of Hay River on the traditional water route and the potential overland route gained greater significance. In early 1921, Hay River was proposed as the most suitable location for the new administrative headquarters of the District of Mackenzie:

> Hay River had the best known harbour on Great Slave Lake, a regular port of call for all steamers plying on the Mackenzie, it is at one end of this immense lake and on the shores of which have been discovered oil and valuable minerals.
>
> Then too, if a railway is built into that country from Peace River the point it would strike to would be Hay River . . . 18

Local people staked claims and speculated on a "boom" town for Hay River as a result of the short flurry of oil exploration in Windy Bay and the Hay River Valley.[19] Individuals contemplated setting up farms "on the chance of it turning out good from the stand point of oil prospects".[20] Although Hay River did not become the new administrative headquarters, it was proposed as early as 1921 that it should have a permanent R.C.M.P. detachment and that the original legal survey of 1914 should be further subdivided in readiness for further development.[21] But it was not until 1925 that these tasks were completed (Fig. 23).[22]

In 1928 and 1929, with renewed exploration of the Pine Point lead and zinc deposits and the prospect of railway construction, Hay River was again seen as a potential port center.[23] A local trader and commercial fisherman requested new land on both Vale Island and the east bank of the river in order to expand his business when the railway extended to Hay River.[24] Other individuals wanted to buy or rent mission property on which to build a restaurant.[25] These speculations on future property were heightened by the examination of the hydro electric potential of the Alexandra Falls, the reassessment of the oil potential of the Hay River Valley, and the aerial photography of Hay River and the south shore of Great Slave Lake in 1929 and 1930.[26] However, Government officials showed less optimism stating that a railway would not be built for at least five years even if there was sufficient ore.

Not until 1938 and 1939, with the planning and construction of the winter tractor route from Grimshaw, near Peace River to Yellowknife, did interest in the development of Hay River revive.

Summary

As a result of the increase in the fur trade and mineral exploration in the District of Mackenzie during the 1920s and 1930s, the situation advantages of Hay River relative to expanded transportation routes became more evident. Minor changes in the character of Hay River reflected this improved transportation development.

Hay River harbor situated midway between the Slave River Delta and the entrance of the Mackenzie River became increasingly important as a stopover point for vessels to shelter from inclement weather or to refuel. The spruce and poplar forests along the river banks provided cordwood and the more accessible timber was quickly cleared. Fur companies constructed rival trading posts at this convenient location along with the waterway to serve the local Indian population and the handful of white trappers and fishermen who built cabins on west side of the main channel on Vale Island.

Water transportation followed the traditional routes that had been used for over a century. Inherent problems of weather, ice, currents, and portages could only be slightly ameliorated by surveys, navigation aids, and upgrading of portage trails. The growing mining industry required more efficient means of transportation. An overland route into the District of Mackenzie was sought. Hay River was situated on such a route which followed the Hay River Valley linking the Peace River with Great Slave Lake. Although it had been used as a transportation corridor by the North West Company as early as 1807, this route only gained renewed significance in the twentieth century as new needs developed. Information about this route slowly accumulated as a result of the journeys of explorers, prospectors, and government officials.

Various rail, road, and air transportation projects were proposed recognizing the advantage of this direct route into the Mackenzie Valley by way of Hay River. Only one project was initiated and this was not successful. As agricultural settlement spread into northwest Alberta, the initial overland trails of the fur trade slowly improved. The distance between the northern terminus of the Alberta road and rail system and Great Slave Lake decreased. With the growth of the mining industry at Great Bear Lake and Yellowknife, the demand for a more direct overland route increased; but not until the winter of 1938-39 did the construction of the first tractor train route commence.

Hay River was seen as an important settlement on the north-south overland route. Not only did it have many potential resources nearby - lead, zinc, oil, hydro electric power, fertile farmland, and fish; but both its large sheltered harbor site and its situation on Great Slave Lake only 160 km (100 mi) from Yellowknife and in close proximity to the entrance of the Mackenzie River made Hay River a very suitable location for a transshipment port for goods destined for the Mackenzie River, Great Bear Lake and Yellowknife.

The rising potential importance of Hay River on this proposed route led to new legal surveys and the desire by individuals to purchase land along the waterfront in order to gain economic advantage when the route was developed. But not until the construction of the winter road, and the airstrips during the Second World War did major changes and expansion begin to take place.

Footnotes

[1] For accounts of the development of the fur trade see Peter J. Usher, Fur Trade Posts of the Northwest Territories, 1870-1970, Canada, Department of Indian Affairs and Northern Developmen, Northern Science Research Group, NSRG71-4, (Ottawa, 1971) and M.J. Robinson and J.L. Robinson, "Fur Production in the North-West", in the New North-West, ed. C.A. Dawson (Toronto: University of Toronto Press, 1947), pp. 133-153

[2] Accounts of the growth of the mining industry are found in L.T. Burwash, Mining in the Mackenzie District,1922, Canada Department of the Interior (Ottawa, 1923); J. Mackintosh Bell, "The Lead-Zinc Deposits near Pine Point, Great Slave Lake," The Canadian Mining and Metallurgical Bulletin 22 (October, 1929): 141-157; C.S. Lord, Mineral Industry of the N.W.T., Canada, Department of Mines and Resources, Geological Survey of Canada, Memoir 230 (Ottawa, 1941).

[3] For a discussion of development of water transportation in this period are H.W. Hewetson. "Transportation in the North-West," in The New North-West, ed. C.A. Dawson (Toronto: University of Toronto Press, 1947), pp. 185-228; Gordon George Thiessen, "Transportation on the Mackenzie River System" (M.A. thesis, University of Saskatchewan, 1962), pp. 11-26. Recent studies of the Fitzgerald-Fort Smith Portage have been made by Mackinnon and Potyondi, C.S. Mackinnon, "Portaging on the Slave River (Fort Smith)," Musk-Ox, No. 27 (1980), pp. 20-35; Barry Potyondi, "How Mickey Ryan Overcame the Smith Portage," Canadian Geographic 100 (Dec 1980/Jan 1981): 66-71.

[4] Guy Blanchett surveyed the mouth of the river in 1921 and St. Peter's Mission looked after the navigational aids, Canada, Department of the Interior, Topographical Survey, Annual Reports, 1921-22, 1922-23 (Ottawa, 1922-23).

[5] Finnie described some of these improvements and the expansion of services to Great Bear Lake, Richard Finnie, "Modern Pioneering in Canada's Western Sub-Arctic," Canadian Geographical Journal 13 (September 1936): 241-55.

[6] "Northern Transportation Co. Ltd." Bear Lake Miner and Northern News, June 1934, pp. 22-23; "The History of Eldorado and Its Subsidary Companies," Eldorado Mining and Refining Ltd., Annual Report (Toronto:1964). The Fort Smith to Aklavik service used a 90 Foot Twin Dieseled powered barge with two barges carrying capacity 300 tons.

[7] The growth of air transportation in the north up to 1939 was discussed by Richard Finnie, "Flying Beyond Sixty, Parts 1, 2 and 3," Canadian Aviation 12 (February 1939): 8-9, 12 (March 1939): 18-19, 12 (April 1939): 24-25, 46.

[8] Footner in his narrative of his own journey down the Hay River indicated that miners enroute to the Klondike followed the Hay River Valley, Hulbert Footner, New Rivers of the North (Toronto: McClelland and Stewart, 1914), p. 158; in the early 1920s several parties followed the valley enroute to Windy Pt. and Norman Wells, the Peace River Record, May 4, 1921 reports "Save 400 miles by using the Hay River valley to Norman Wells and Windy Point"; White trappers from northern Alberta came to trade at Hay River, AA,DMR,MR-4/5, Journal of St. Peter's, August 14, 1922; Indians and traders brought horses to Hay River from Upper Hay River Post, AA, DMR,MR.4/6,8, Journal of St. Peter's, July 21, 1927, April 27, 1933; The German scientist, Dr. Kurt Faber died 20 km (12 mi) south of Hay River enroute from Fort Vermilion - 1930, Canada, Royal Canadian Mounted Police, Report for the Year Ended September 30, 1930, Hay River (Ottawa, 1931) pp. 101-2.

[9] F.H. Kitto, The Peace River Country, Canada, Department of the Interior (Ottawa, 1916); The Peace River Country, Canada, Department of the Interior (Ottawa, 1930); pp. 106-8; A.E. Cameron 1918, pp. 21c-23c; J.R. Akins, "29th Base Line between 5th and 6th Meridian," Canada, Department of the Interior, Topographical Surveys Branch, Annual Report (Ottawa, 1914); J.R. Akins, "6th Meridian between 27th Base and Northern Boundary of Alberta, Canada, Department of the Interior, Topographical Surveys Branch Annual Report (Ottawa, 1916); Guy Blanchett, Great Slave Lake Area, Northwest Territories, Canada, Department of the Interior (Ottawa, 1926), pp. 19-20. Morris Zaslow, Reading the Rocks, (Toronto: Macmillan of Canada, 1975), pp. 335-357.

[10] Canada, Royal Northwest Mounted Police, Report (1909) "Patrol Report, Sergeant R.W. McLeod, Fort Vermilion to Hay River, Journey 1909," Canada Sessional Papers No. 28, 1910, pp. 178-80, this route followed the Hay River; PAC, Royal Canadian Mounted Police, RG18, vol. 709, part 384, McLeod to Commanding Officer, RNWM Police, "N" Division, February 5, 1910. This letter outlined a journey from Fort Vermilion to Upper Hay River Post and a return via winter trails to Keg River and Carcajou. Trails that developed into pack trails and wagon roads and eventually portions of the Mackenzie Highway; Canada, Royal Northwest Mounted Police Annual Report, 1911, "Sergeant R.W. McLeod's Patrol, Fort Vermilion to Great Slave Lake" (Ottawa, 1912), pp. 180-81, McLeod followed the direct trail over the Caribou Mountains; Canada, Royal Canadian Mounted Police, Report for the Year Ended September 30, 1931, "Hay River," (Ottawa, 1932), pp. 111-12, described a journey to Lake Bistcho and the difficult trails to Fort Providence, Hay River, Canada, Royal Canadian Mounted Police, Report for the Year Ended September 30, 1932, "Hay River" (Ottawa, 1933), pp. 125-126, noted the construction of a telegraph line from Peace River to Fort Vermilion and although there was good agricultural land there was little market because of the distance from the railroad at Peace River.

[11] F.H. Kitto, The Peace River District, Canada, Department of the Interior (Ottawa, 1920), pp. 44-48.

[12] E.B. Fairbanks, "In the Peace River District," The Dalhousie Review 10 (1931): 495-502; Canada, Royal Canadian Mounted Police, Report for Year Ending September 30, 1930, "Hay River" (Ottawa, 1931), pp. 101-2.

[13] see "Rich Lands Lie Beyond Peace Area", Victoria Colonist, December 27, 1929, pp. 1 and 20. In this article J.K. Cornwall advocated a road or railway through northwest Alberta into the District of Mackenzie not only to open up vast farmlands but to tap the wealth of the mineralized areas between Great Slave Lake and the Arctic Ocean.

[14] The straightline distance from Waterways and Peace

River to Hay River is almost the same, 513 km (321 mi) but the route from Peace River crossed fewer major rivers. The traditional water route from Waterways to Hay River was 930 km (582 mi); a railroad from Peace River to Fort Vermilion was to be surveyed in 1915-16 north from the Central Canadian Railway terminus at Peace River, Canada, Department of the Interior, Topographical Surveys Branch, Annual Report, 1916-17 (Ottawa, 1918), appendix 5, p. 39. In 1921, the Edmonton and Mackenzie River Railway Company proposed a railway from Waterways to Hay River via Jackfish River, Canadian Railway and Marine World August, 1921, p. 419; in 1928 three companies proposed railroads north of Peace River into the N.W.T. (Zaslow, 1957, p. 81); in 1932 a Canadian Pacific Railway engineer surveyed the Hay River Valley route, PAC, Northern Affairs Program RG85, vol. 1929, file 612, McDougal to Hume, August 18, 1933.

[15] This route was about 170 km (106 mi) shorter than a route linking the settlements along the water route north of Waterways. Fullerton described the first flight into the N.W.T. Elmer G. Fullerton, "Pioneer Flying in the Sub Arctic," Canadian Aviation 7 (May 1934): 4-8.

[16] The main air route followed the water route because most of the air freight, mail and passengers came from settlements on that water route. The Peace River Airways Ltd. service provided an alternate service to Yellowknife but it was the same distance as from Waterways, AA,DA,A320/875 Proctor to Sovereign, February 17, 1939.

[17] "A winter road to Great Bear Lake," Bear Lake Miner and Northern News, May 1933, pp. 4-5. This magazine was renamed the Nor'West Miner in February, 1935.

[18] PAC,RG85, vol. 568, file 35, Norquay to Finnie, March 9, 1921.

[19] AA,DMR,MR.4/5, Journal of St. Peter's, July 12, 1922; SA,SPM, Vale to Merrit, July 5, 1922.

[20] SA,SPM, Vale to Gunn, March 3, 1920.

[21] AA,DMR,MR.200/139 Commissioner of R.C.M.P. to Lucas, April 20, 1921; PAC,RG89, vol. 344, file 672, part 1, Finnie to Glidden, August 8, 1921. The original survey of 1914 was made by C.A. Fawcett in connection with Indian Claims to land associated with Treaty 8 see chart no. 1508-1 dated April 6, 1915, Canadian Legal Survey Registry, Surveys and Mapping Branch Department of Energy Mines and Resources, Canada.

[22] AA,DMR,MR.4/6, Journal of St. Peter's, August 1, September 1, 1925; Chart 1580-2, dated July 15, 1927, Canadian

Legal Survey Record, Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa. Original lots 22-24 were subdivided into lots 33-56 each approximately 1 acre (0.4 ha).

[23] AA,DMR,MR.4/6, Journal of St. Peter's, February 15, August 8, 1928.

[24] PAC,RG85, vol. 344, file 672, part 1, DeMelt to McDougal, December 15, 1928, DeMelt to Finnie, August 28, 1929, McDougal to Finnie, September 30, 1929.

[25] In 1929, the visit of a 'millionaire railwayman' led to this speculation, AA,DMR,MR.4/6, Journal of St. Peter's, August 10, 1929; SA,SPM, Westgate to Singleton, August 23, 1929.

[26] AA,DMR,MR.4/6-7, Journal of St. Peter's, July 16, 1929, June 21, 1930, July 6, 1930; J.D. Bateman, "Petroleum Possibilities in the Great Slave Lake Area," Western Miner 20 (September 1947): 72-76.

CHAPTER VIII

THE CONSTRUCTION OF THE MACKENZIE HIGHWAY AND THE GROWTH OF HAY RIVER AS A SERVICE CENTER FOR COMMERCIAL FISHERIES ON GREAT SLAVE LAKE AND A TRANSPORTATION CENTER FOR NORTHERN SETTLEMENTS 1938-1950

The potential situation advantages for an overland route along the Hay River Valley into the District of Mackenzie were finally realized in the late 1930s. A winter tractor road received active support from the mining industry of the Northwest Territories and the communities of northwest Alberta. Further support and much of the financial aid came from the governments of Alberta and Canada which recognized not only the economic importance, but its strategic importance as part of an international highway to Alaska and the defence program of North America during World War II.

By 1948, the winter road was upgraded to the all-weather Mackenzie Highway linking Grimshaw, Alberta,to Great Slave Lake. Hay River, situated at the northern terminus of the highway, rapidly increased in size and population. Access to Great Slave Lake stimulated rapid growth of the commercial fisheries and Hay River became the center for this industry. Hay River also became a transshipment point for goods destined for Yellowknife. Slowly, with the upgrading of the highway and subsequent construction of railway facilities in the 1960s, Hay River grew to become the transportation center for the western Northwest Territories.

Construction of the Winter Road[1] (Fig. 20)

By the mid 1930s, the need for a northern road system was widely publicized.[2] The traditional route into the District of Mackenzie followed the Athabasca, Slave, and Mackenzie Rivers north from Waterways. The proposed alternate route, which became the "Mackenzie Highway", ran due north overland from the railhead at Grimshaw to Great Slave Lake, a distance of approximately 513 km (321 mi). From there, river and lake routes were to be utilized both in winter and summer.

The proponents of the "Mackenzie Highway" route claimed that the traditional waterway failed to provide adequate service and that money spent on improving and maintaining it on a yearly basis would be sufficient to construct an all-weather road to Great Slave Lake or to the head of the Mackenzie River. Such a road would stimulate agricultural expansion in northern Alberta and the Peace River District would act as a supplier of foodstuffs and services to northern communities. W.A. Fallow, Minister of Public Works for the Government of Alberta, recognized these advantages but also saw the road as part of a wider plan for the acquisition of new territory by the extension of the Alberta boundary into the District of Mackenzie. He also wanted to make this

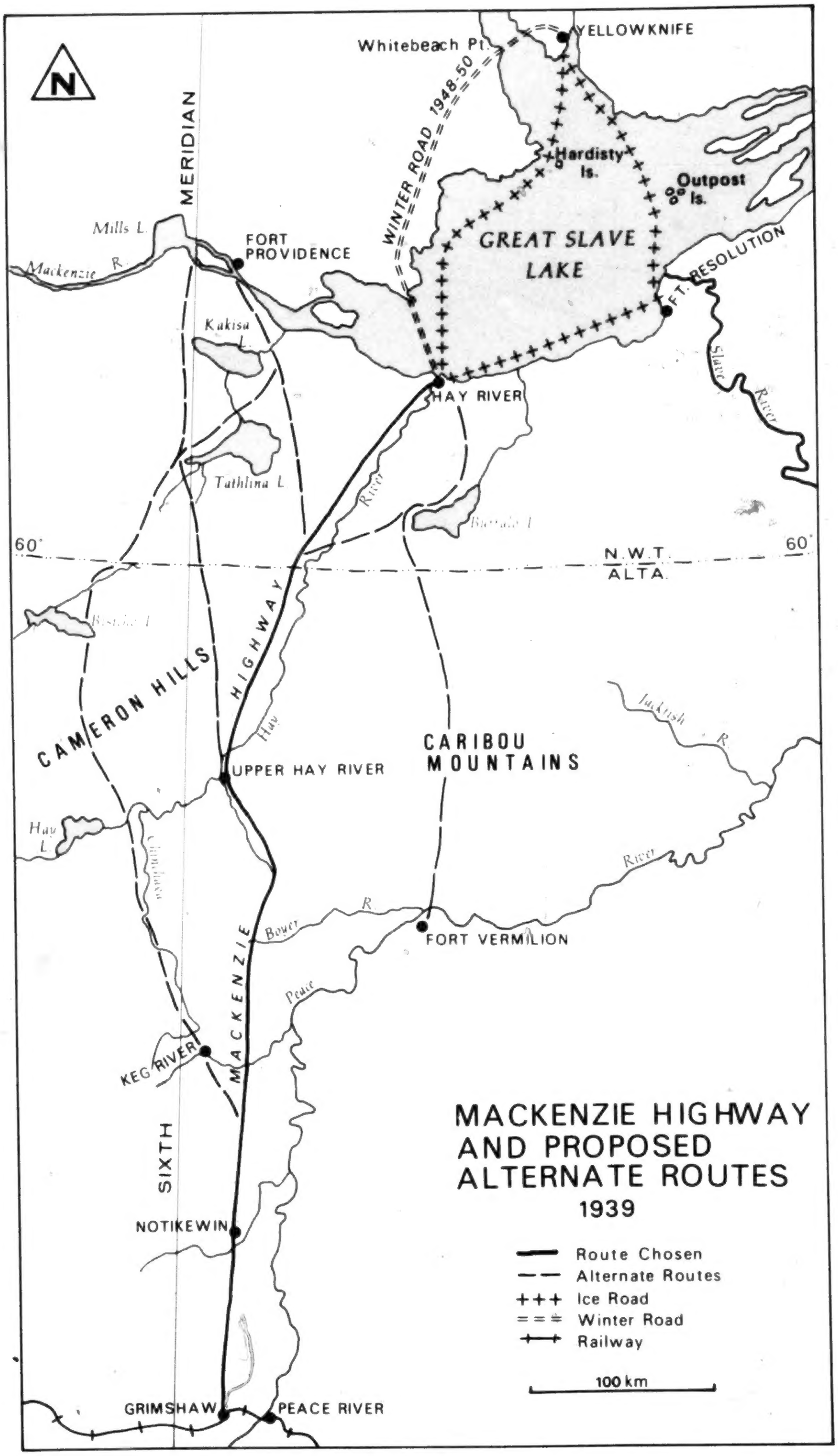
MACKENZIE HIGHWAY
AND PROPOSED
ALTERNATE ROUTES
1939
Route Chosen
Alternate Routes
Ice Road
Winter Road
Railway
100 km
N
YELLOWKNIFE
Whitebeach Pt.
WINTER ROAD 1948-50
Hardisty Is.
Outpost Is.
GREAT SLAVE LAKE
FT. RESOLUTION
MERIDIAN
Mills L.
Mackenzie R.
FORT PROVIDENCE
Kakisa L.
HAY RIVER
Slave River
Tathlina L.
River
Buffalo L.
60°
N.W.T.
ALTA.
60°
Bistcho L.
CAMERON HILLS
HIGHWAY
Hay
CARIBOU MOUNTAINS
Jackfish R.
UPPER HAY RIVER
Hay L.
Chinchaga
River
Boyer R.
FORT VERMILION
Peace
KEG RIVER
MACKENZIE
SIXTH
NOTIKEWIN
GRIMSHAW
PEACE RIVER

Figure 20

road part of the "Highway to the Midnight Sun" linking Alaska with the southern United States.[3]

Opponents of the "Mackenzie Highway" route claimed that the new overland route would not replace the traditional waterway because communities along that route would still have to be serviced. Water transportation was much cheaper than winter tractor train and could handle bulky goods.[4] Even though the waterway route had little agricultural potential, it had potential in terms of tar sands and fishing.[5] The "Mackenzie Highway" route to the entrance of the Mackenzie River was considered to be of no advantage to Great Bear Lake mining because of the late break-up of ice on that lake. Proponents of the waterway route claimed that a route either by water or by road to Yellowknife was shorter from Waterways than from Grimshaw. This advantage was only about 50 km (30 mi) and a winter road along the Athabasca route north from Waterways would have to follow many lakes, rivers, and muskeg and, therefore, be both dangerous and expensive.[6] The traditional summer route would still be hindered by low water and lengthy delays at Fitzgerald/Fort Smith Portage.

In the fall of 1937, the Government of Alberta expressed a willingness to construct a road to Great Slave Lake if it received cooperation and financial aid from the Federal Government. In the following spring, the Federal Government indicated that a sum of $75,000 would be provided for the project.[7]

The proposals for an overland route into the District of Mackenzie were initially for the benefit of the whole area but in the fall of 1938, the gold mines in Yellowknife failed to receive sufficient supplies to expand their production because of low water on the Athabasca River and it was imperative that additional supplies be sent as soon as possible.[8] The Federal and Alberta Governments agreed to finance and construct a winter tractor train road to Great Slave Lake to help alleviate this specific problem.[9]

A route had to be chosen to suit this specific purpose. The alternate routes proposed reflected the information collected from R.C.M.P. personnel, Hudson's Bay Company managers, and government officials as well as the view of interest groups.[10]

The people of Fort Vermilion proposed a route due north from their community across the Caribou Mountains despite the very rough terrain. This road route, combined with summer bulk water routes on the Peace River and across Great Slave Lake, would reduce freight rates to $41.20 compared with $52.20 a ton from Waterways.[11]

The more acceptable route, because of gentler terrain and less handling of cargoes, ran due north of the railroad at Grimshaw but instead of following the telegraph and wagon road into Fort Vermilion left the Boyer River Valley and cut directly north to Upper Hay River Post.

North of Upper Hay River Post several alternate routes were examined. Three routes headed for Fort Providence at the entrance of the Mackenzie River and two led to Hay River on Great Slave Lake. Two routes to Fort Providence, one along the Sixth Meridian cutline and the other following dog team and pack horse trails between Hay River, Bistcho Lake, Tathlina Lake, and Kakisa Lake crossed the Cameron Hills and were considered too rough. The third route left the Hay River Valley near the Northwest Territories border and cut northwest across level country towards Fort Providence. The old Indian trail to Hay River via Swan Lake and Buffalo Lake was too circuitous and was rejected. Finally, after an aerial survey in January, 1939, the more direct route along the west bank of the Hay River was chosen.[12] This route had fewer creek crossings, less muskeg, and more open woodland than the east bank. This route crossed the limestone escarpment 25 km (15 mi) west of Alexandra Falls. From this point, trails could be cleared either northeast to Hay River or northwest along the escarpment to Fort Providence. Since the immediate concern was to alleviate the shortages in Yellowknife, the easier route northeast over the lake ice via Hay River was chosen. The route to Fort Providence, although it would have given access to both Yellowknife and the Mackenzie River Valley, was not utilized until a later date.[13]

By mid February, 1939, survey crews and brushcutters[14] began opening up the road to Hay River. The first tractor train assembled by Yellowknife Transportation Company left Grimshaw for Yellowknife on March 9, 1939.[15] Both brushcutters and tractor train arrived at Hay River April 3 after reaching the lakeshore about 10 km (6 mi) west of the settlement.[16] The tractor train continued onto Yellowknife over Great Slave Lake following the shore ice to Fort Resolution and an ice road which had been built to deliver timber from Fort Resolution to Yellowknife. Although the journey of 930 km (580 mi) had taken 39 days at a cost of $150 a ton, it clearly indicated that an overland route was possible and laid the foundation for slow improvement of the route in the following years.[17]

Although the first tractor train did not actually pass through the settlement of Hay River but skirted along the lake shore, Hay River was to be the terminus of the overland route before crossing onto Great Slave Lake. A right of way into the community had to be planned and this led to a heightening of land speculation that had occurred in the late 1920s and early 1930s. The initial surveys of Hay River marked out a series of lots on the east bank of the river with a road allowance running parallel to the river bank. The sale of these lots was frozen pending the decision on road construction.[18] When the winter tractor train road was built north of Upper Hay River Post, it followed the west bank of the river and it was assumed that the terminus would be on the west bank of the main channel in the northeast corner of Vale Island. Here, several trappers had squatted for a number of years. A small bank, 3-4 m (10-12') high, gave more protection from flooding than the shoreline further downstream and the water had carved a deep channel which provided adequate docking facilities if and when desired. Individuals and companies such as Northern Tractor Train Ltd.,[19] and McInnes Transportation Company[20] requested permission to purchase lots in the area. In order to facilitate orderly development along with road construction, a new legal survey in the summer of 1939 created 52 new lots along the river bank at the northeast side of Vale Island. The land immediately adjacent to the water's edge was reserved for government use and was separated from the long narrow lots by a road allowance.[21] This new legal survey provided a new focal point for development which eventually grew into the new town of Hay River in the late 1940s and 1950s (Fig. 23).

In the following winter, 1939-40, the winter road north of Upper Hay River Post was relocated closer to the river bank on drier but more heavily timbered land. In spite of the survey of the northeast corner of Vale Island, the winter road crossed over onto the east bank of Hay River just south of Vale Island and terminated in the Indian Village close to St. Peter's Mission.[22] With the slow improvement of the road, traffic moved in both directions and included tractor trains and conventional wheeled vehicles.[23] Yellowknife Transportation Company, Sheck Brothers, and Ingraham Brothers used the road in 1940-41 and 1941-42.[24]

Wartime Expansion of the Winter Road Network

The outbreak of the Second World War in September, 1939, placed northern Canada in a new perspective. It was no longer the remote frontier but occupied a central position on routes to the theatres of war both in Asia and Europe. The entry of the United States of America into the conflict in December 1941, reactivated the long established concern for the construction of an international highway from Alaska to the southern United States via Canada. The winter road to Great Slave Lake and the Norman Wells oilfield were prominent related components in the discussion of this vital strategic link.[25]

In 1942, the CANOL Project was conceived to supply Alaska with fuel produced at the Norman Wells oilfield.[26] A small diameter pipeline and access road were to be built from Norman Wells across the Mackenzie Mountains to the Alaska Highway. The men and equipment for this project followed the traditional water route north from Waterways instead of using the overland route from Grimshaw to Great Slave Lake. Much of this equipment failed to reach Norman Wells during the summer of 1942 and had to be moved overland in the following winter. In early October 1942, the United States Armed Forces moved 1500 men and supplies to Peace River and commenced the construction of a large network of winter roads to supply Norman Wells and the CANOL Pipeline.[27] The winter road to Hay River was upgraded and extensions made to Fort Smith, Mills Lake at the head of the Mackenzie River, Fort Simpson, and Norman Wells as well as feeder routes from Fort Nelson to Fort Simpson.[28]

The CANOL Project also included airfields to facilitate all year round air service to Norman Wells.[29] At Hay River, landing strips were built at the southern end of Vale Island in the summer of 1942. Here, the higher ground of the upper part of the delta provided a site with less muskeg and only small patches of ground ice. Heavy equipment, necessary for clearing the forest cover, was brought by barges along the deepwater channels of the delta.[30] With the construction of the airstrips, Vale Island gained added importance as the site for future development of Hay River rather than the well established Indian Village on the east bank of the river which was isolated from the airstrips.

By the end of the winter of 1942-43, the United States Army and its civilian associates abandoned the winter road network and resumed using the Mackenzie River system. But the winter road network became extremely useful to individuals and private companies. Ingraham Brothers of Yellowknife reopened the roads in the winter of 1943-44 and received government contracts to clean up fuel caches and supply dumps left by the military.[31] They also supplied the Hudson's Bay Company posts at Upper Hay River, Hay River, Fort Resolution, Fort Smith, and Fort Fitzgerald. The same company backhauled 250 tons of uranium concentrates from Hay River to Grimshaw.[32] Blakeley Transport supplied Fort Smith with fresh meat and carried the first load of white fish from Hay River south for sale in the Peace River District.[33]

In the winter of 1944-45, Ingraham Brothers were contracted by the Federal Government to maintain the winter road to Great Slave Lake as a public thoroughfare. The Federal Government resurveyed its section in readiness for future improvement.[34]

The Construction of the All-Weather "Mackenzie Highway"

With the continued use of the winter road throughout the Second World War, pressure mounted for the upgrading of the route either in the form of a railway or a hard surfaced all-weather road.[35] In early 1945, the Government of Alberta offered its support for an all-weather road and on November 3, 1945, signed an agreement with the Federal Government to proceed with the construction of a road to Great Slave Lake.[36] Contracts were issued in early 1946 but the highway was not completed until October 1948. On March 10, 1949, the Federal Government named the new road the "Mackenzie Highway".[37] No official opening appears to have taken place and in April, May, and August of the first year, 1949, the highway was closed periodically because of flooding and muddy conditions caused by poor construction.[38]

The terminus of the highway remained at Hay River although some government officials had previously indicated that Hay River was unsuitable for shipping in bad weather. The logical route they claimed for most traffic would follow the limestone escarpment from Alexandra Falls to Mills Lake at the head of the Mackenzie River thus bypassing Hay River.[39] However, in the mid 1940s, the goldmining industry in Yellowknife had boomed again and was hampered by low water in the Slave River.[40] Hay River lay only 160 km (100 mi) across Great Slave Lake from Yellowknife and any cargoes bound for the Mackenzie River could be sent from Hay River but at a later date than from the head of the Mackenzie River.

The highway terminated in the northwest corner of Vale Island and not in the Indian Village as did the winter road. The highway crossed onto the south end of Vale Island, skirted the west bank of the main channel close by the new air strips, and joined up with the road allowance surveyed by Lawrence in 1939.[41]

During the winter months of 1945-46, 1946-47, and 1947-48 when the new highway was being surveyed and constructed, considerable traffic passed over the winter road. Most of the traffic up to this time had been destined for Yellowknife. Hay River, in spite of speculation, remained a small stopover community. Truck and tractor personnel rested and repaired equipment there but there was little transhipment of freight from road to water transport. Few new buildings were constructed and the vacated St. Peter's Mission buildings satisfied the needs of the transport companies.[42]

As the Mackenzie Highway neared completion and the travelling time from the railhead at Grimshaw to Great Slave Lake decreased to a matter of hours, it became more feasible to tap the fish resources of the lake and ship them by truck and rail to southern markets. As a result of this increasing accessibility, Hay River began to slowly expand its role as the center of the commercial fisheries and to grow in size. With the completion of the highway in 1948, there were a boom in the fishing industry and a rapid population growth, causing a physical extension of the settlement of Hay River.

The Development of Hay River as the Center for Commercial Fisheries on Great Slave Lake

Domestic fisheries on Great Slave Lake had traditionally provided for the needs of local Indians, fur traders, and missionaries throughout the nineteenth and first half of the twentieth century. The establishment of a settlement at Hay River was partially influenced by the fact that the sheltered site at Hay River was close to the relatively abundant fish resources of Great Slave Lake.

Small commercial fisheries began to develop in the late 1920s and 1930s along with the broadening economic activities and improved water transportation. One such commercial fishery was operated by E.R. DeMelt at Hay River in the late 1920s. His main market was the R.C.M.P., Postal Service, Hudson's Bay Company, and the Anglican Church.[43] But it was not until the Second World War that serious attempts were made at large scale commercial fishing. Wartime shortages of protein and oils increased the demand for fish products. At least two companies, Great Slave Lake Fishing Company of Vancouver and Viking Fisheries of Winnipeg, planned to locate at Hay River and vicinity and take advantage of the overland winter road to the railhead at Grimshaw. In spite of their field surveys and applications for land and licenses, they failed to go into production. Lack of proper equipment, a guaranteed quota of fish, and exclusive rights on Great Slave Lake prevented a viable operation.[44]

As a result of these requests to commerically fish Great Slave Lake, the Federal Department of Fisheries, in 1944, began a continuous long term scientific study of the fish resources of the lake on which to base new fishing regulations and management policy. In the fall of 1944, Dr. D.S. Rawson concluded that Great Slave Lake was able to support a commercial fishery of at least 1,360,000 kg (3,000,000 lbs) per year.[45] The Federal Government agreed to open Great Slave Lake to commercial fishing in 1945. Strict quotas on the number of fish caught and laws regulating the industry were introduced. The quotas and regulations were carefully controlled on the basis of continuing research of the fish stocks of the lake.

Summer Fisheries 1945-49

Hay River was not the first center for the summer commercial fishing because it lacked access from the south by road in 1945 and was not situated close to the more productive fishing grounds. The first large scale commercial fishery, exporting fish from Great Slave Lake to southern Canada, was established by Gros Cap on the north shore of the lake in July 1945 by McInnes Products Corporation of Edmonton (Fig. 21).[46] Gros Cap, located at the junction of the North Arm and East Arm of the lake, was situated near the rich fish stocks of the deeper parts of the lake and

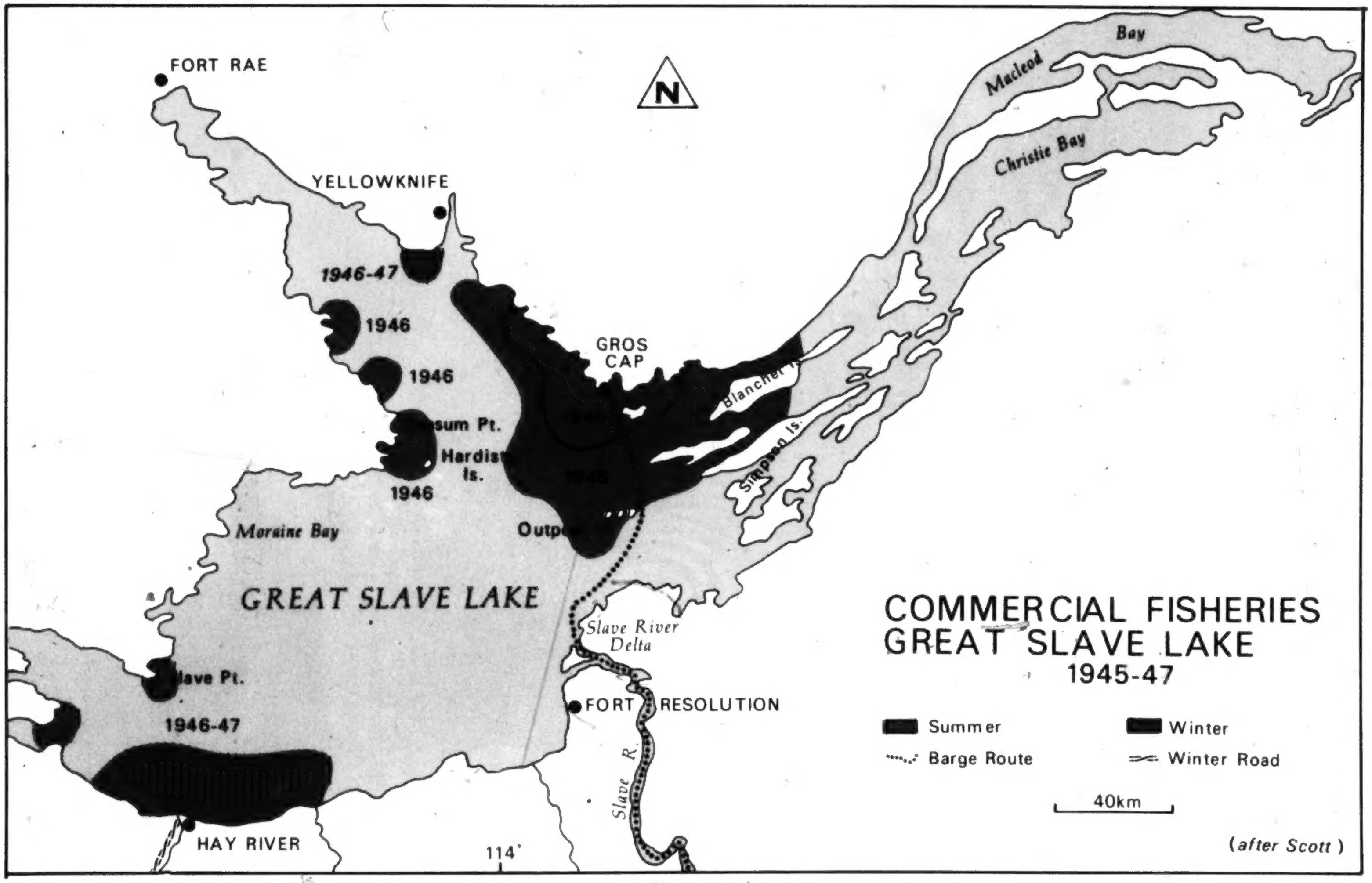
COMMERCIAL FISHERIES
GREAT SLAVE LAKE
1945-47
Summer
Winter
Barge Route
Winter Road
40km
(after Scott)
N
FORT RAE
YELLOWKNIFE
GROS CAP
Macleod Bay
Christie Bay
Blanchet Is.
Simpson Is.
1946-47
1946
1946
sum Pt.
Hardis Is.
1946
1946
Outp
Moraine Bay
GREAT SLAVE LAKE
lave Pt.
1946-47
Slave River Delta
FORT RESOLUTION
Slave R.
HAY RIVER
114°

Figure 21

only 100 km (63 mi) from the entrance of the Slave River water route which led to the rail terminus at Waterways. McInnes Products which had started commercial fishing on Lesser Slave Lake, Alberta in 1916 and expanded to Lake Athabasca in the 1920s possessed the necessary expertise and equipment, and had access to markets in the eastern United States for substantial quantities of fish. But more important, it owned the necessary transportation equipment to carry the processed fish from Great Slave Lake to the railhead at Waterways. In 1945, McInnes Products had surplus refrigerator barges and tug boats because of the decline of both its freight service to Goldfields on Lake Athabasca and its commercial fishery on the same lake. Whitefish and lake trout, processed at the fishing station at Gros Cap, were transported by freezer barge and truck across Great Slave Lake, up the Slave River, across the Fort Smith-Fitzgerald portage, and along the Athabasca River to Waterways, a journey lasting 120-130 hours.

During the first short season, from July 28 to September 16, 575,000 kg (1,270,000 lbs) of fish were caught in the sheltered fishing grounds adjacent to Gros Cap (Table VI). The Gros Cap fishery continued its successful operation virtually without competition until the summer of 1949 because of the transport system controlled by McInnes Products and the lack of overland transport via Hay River during the summer months. Production increased along with the extension of annual quotas. In 1946, the summer fishery expanded from

Table VI

COMMERCIAL FISHERIES GREAT SLAVE LAKE

	SUMMER					WINTER			
YEAR	QUOTA	CATCH	BOATS	COMPANIES	LICENSES[a]	QUOTA	CATCH	COMPANIES	LICENSES
1945	2.4[b]	1.6	20	1	42	-	-	-	-
1946	3.0	2.3	22	1	60	-	-	-	-
1947	3.0	2.3	18	1	61	1.2	0.13	1	20
1948	3.0	2.3	21	2	99	1.2	1.2	4	113
1949	5.0	5.3	63	7	212	4.0	4.1	7	302
1950	5.0	4.3	57	5	185	4.0	4.0	13	611

SOURCE: Department of Fisheries, Department Mines and Resources, Keleher 1962 and 1965 .

[a] Licenses issued does not necessarily indicate total number of fishermen.

[b] Millions of pounds of round fish (unprocessed fish).

Gros Cap to cover an area between Yellowknife Bay in the north to Outpost Islands in the south, and from Blanchet Island in the east to Gypsum Pt. in the west (Fig. 21).[47]

McInnes Products attempted to overcome the problem of slow water transportation by using aircraft. In the summer of 1947, it air freighted 113,000 kg (250,000 lbs) of fresh lake trout to Waterways but this proved to be too expensive.[48]

The summer monopoly of McInnes Products ended in late August 1948 when W.R. Menzies Fishing Company of Faust on Lesser Slave Lake, Alberta brought fishing boats to Hay River along the nearly completed Mackenzie Highway. Within a period of three weeks, this company caught approximately 87,000 kg (193,000 lbs) of white fish and lake trout in close proximity to Hay River. These fish were iced and shipped fresh by truck to Faust, a distance of 800 km (500 mi) in about 20 hours. More rapid transportation over the new summer highway enabled fresh fish to be marketed. Fresh fish demanded higher prices than frozen fish and the cost of road transportation was relatively inexpensive when compared to water transportation.[49] Thus, from 1948 onwards, Gros Cap relinquished its role as the center of the summer fishery to Hay River because of the increased accessibility of Hay River following the completion of the Mackenzie Highway.

Winter Fisheries Centered at Hay River 1946-50

The function of Hay River as the center of the commercial fishery depended on its situation at the terminus of the Mackenzie Highway on the shore of Great Slave Lake. In wintertime, the fishing grounds of Great Slave Lake were accessible from Hay River over the ice surface from December to March; and the hard surface of the winter road provided access to the railhead at Grimshaw which was not possible during the summer months.

Winter fisheries on the lake required less capital investment than the summer fishery. Hand, dog, and horse drawn sleighs as well as trucks and bombardiers replaced boats and skiffs on the lake. Trucks instead of tugs and barges transported the fish to the railhead. Less refrigeration equipment was required because the rapid overland transport enabled iced fish to arrive at the eastern United States markets in a fresh high quality condition.[50] With the slow improvement of the winter road and the construction of the Mackenzie Highway, travel time from Hay River to Grimshaw (600 km,375 mi) declined from 20 hours to about 15 hours. Cost of freighting fish over the hard winter surface declined to 1½¢ per pound.[51] These advantages of speedy cheap delivery and access to the less capital intensive fresh fish market attracted more and more fishermen and companies as road conditions improved.

In the winter of 1946-47, only two companies fished the lake and one of these failed to make a profit because it could not ship fish to market from the Yellowknife Bay area. The other company, W.R. Menzies Company, restricted its activities to the inshore area on either side of Hay River because of the lack of mechanized equipment (Fig. 21). But, because of the improved quality of the winter road, it managed to ship one quarter of its catch of 66,000 kg (146,000 lbs) fresh to the railhead.

In the following winter, as the all-weather highway neared completion, four companies and 113 fishermen operated out of Hay River. Most fishermen set nets at a distance of 20-25 km (12-15 mi) from the mouth of the Hay River. More extensive fishing was prevented because of lack of detailed knowledge of fishing conditions, poor transportation equipment, and a ban on fishing in the northern part of the lake as a result of the wastage of fish in that area in the previous winter.

Fishing increased rapidly in the winter of 1948-49 following the completion of the Mackenzie Highway. Seven companies employed a total of 302 licensed fishermen. The yearly quota was raised and the total winter catch amounted to 1,852,725 kg (4,089,897 lbs) of dressed fish. The Department of Fisheries allowed commercial fishing on the whole of the lake west of longitude 114°10'W.[52] This made it possible to catch fish in the Yellowknife area as well as Hay River and opened up the productive fishing grounds along the northwest shore of the lake but within easy access of Hay River. At the same time, these regulations protected the domestic fishery at Fort Resolution and the Gros Cap summer fishing ground from depletion. More extensive fishing was made possible by the use of at least twenty bombardiers as well as trucks and two aircraft. The bombardier introduced the previous year was a light tracked vehicle with ample capacity and was economical to operate.

By 1949-50, the number of companies had increased to 10 with a total of 611 fishing licenses issued.[53] Nets were set over much of the west end of the lake in relative close proximity to Hay River but also in the North Arm and East Arm over 200 km (130 mi) from Hay River (Fig. 22). In succeeding years, the number of companies and fishermen declined abruptly and production slowly declined throughout the 1950s.

Hay River acted as a transshipment and supply center for the lake fisheries. Fish hauled from the fishing camps by bombardier were processed and packed at the packing plants in Hay River before being shipped either fresh or frozen by truck to Grimshaw. The winter journey was aided by the fact that the road bed, frozen and hard, provided a fast safe travelling surface which contrasted with the rough loose summer road that was either dusty or muddy. By 1952, some fresh fish was trucked to the New York market in less than six days.[54]

Summer Fisheries Centered at Hay River 1949-50

By the summer of 1949, Hay River had become the center of both the winter and summer fisheries. In that summer, six companies operating 63 boats caught a total of 2.1 mil-

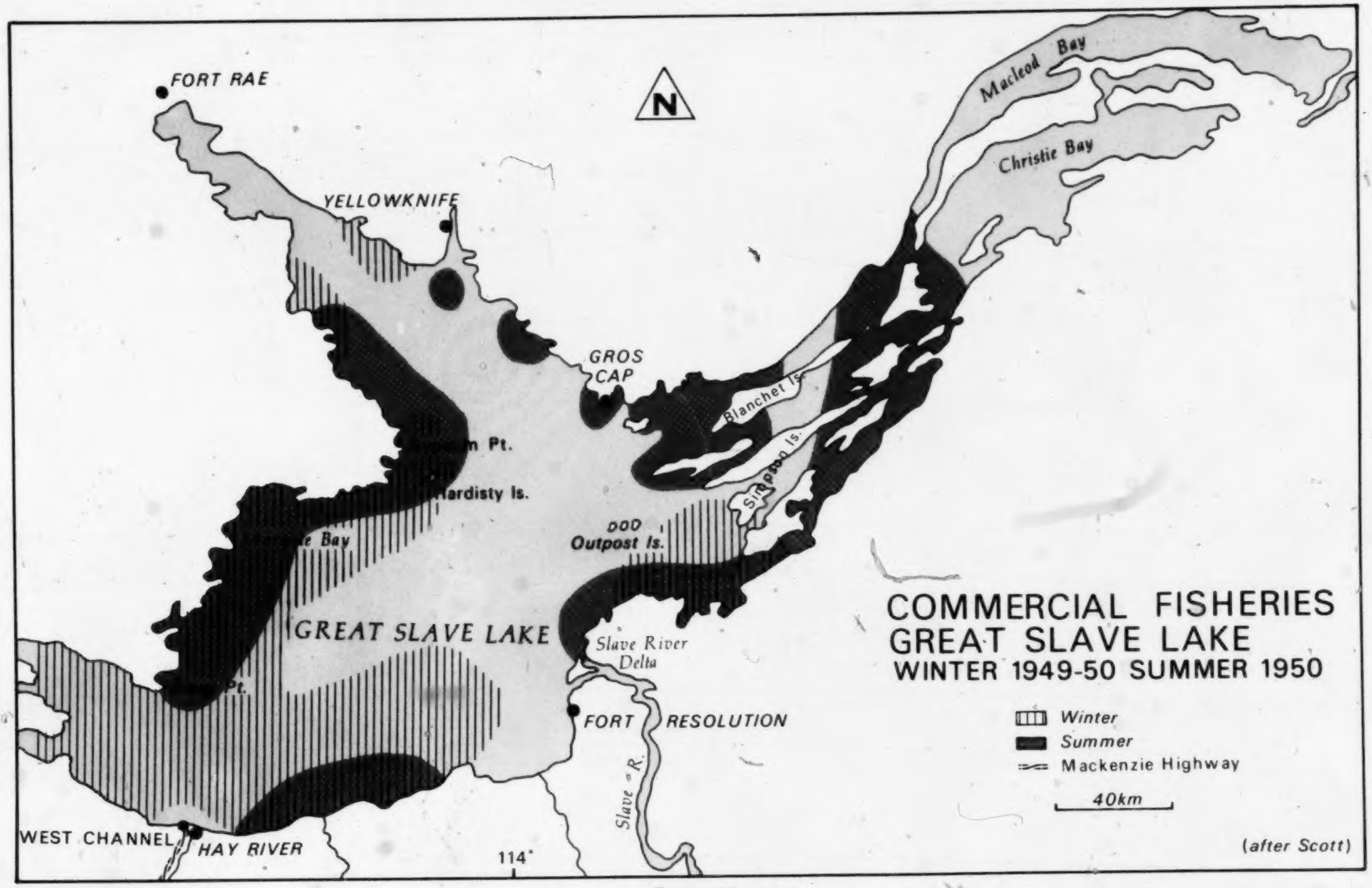
COMMERCIAL FISHERIES
GREAT SLAVE LAKE
WINTER 1949-50 SUMMER 1950
▥ Winter
■ Summer
Mackenzie Highway
40km
(after Scott)
FORT RAE
YELLOWKNIFE
GROS CAP
Pt.
Hardisty Is.
Bay
Outpost Is.
Blanchet Is.
Simpson Is.
Macleod Bay
Christie Bay
GREAT SLAVE LAKE
Slave River Delta
FORT RESOLUTION
Slave R.
Pt.
WEST CHANNEL
HAY RIVER
114°
N

Figure22

lion kg (4.6 million lbs) of white fish and lake trout. The combined production for both winter and summer fishery in 1949 amounted to 4 million kg (9 million lbs), the largest amount of fish taken from Great Slave Lake in any one year. Many fishermen and companies used the newly constructed Mackenzie Highway to reach Great Slave Lake and take advantage of the increased quotas allowed by the Department of Fisheries.

The summer fishery of 1949 was hindered by transportation problems. The Mackenzie Highway which had attracted many people to the fresh fish industry was inadequate. Poor construction, frost heave, heavy rainfall, and large numbers of heavily laden vehicles made the highway impassable at times. A road ban in August, at the height of the fishing season, caused a loss of over $100,000 of fresh fish which could not be marketed. Fishing had to be stopped during the road ban thus curtailing the length of the fishing season. On the lake itself, lack of proper boats prevented lifting of nets in rough water.

There was no suitable sized freighters for transporting ice and provisions to the distant fishing grounds and for returning fresh fish to the processing companies at Hay River.[55] Although Hay River was the center of the fishing industry, because of its situation at the terminus of the highway, most of the fishing grounds were quite distant from Hay River (Fig. 22). The area close to Hay River had a restricted quota of only 226,000 kg (500,000 lbs) in order to protect the fish stocks for the winter season. Most of the fishing continued to take place in the East Arm of the lake over 200 km (125 mi) from Hay River. This area had been fished in previous years from Gros Cap and produced large numbers of fish especially the higher priced lake trout. The northwest shore, between Slave Point and Gypsum Point which had been investigated the previous winter, became another important summer fishery not too distant from Hay River.

In the early 1950s, the number of companies decreased to five and summer production fluctuated between 1.5 and 2.1 million kg (3.3 and 4.8 million lbs).[56] The bulk of the fish was caught along the northwest shore, in the North and East Arm, and off the northeast part of the Slave River Delta (Fig. 22). Although Hay River was distant from these fishing grounds, it continued to provide access to the Mackenzie Highway, the quickest route to the southern markets.

Growth of the Transportation Function of Hay River

Even though the completion of the Mackenzie Highway led to the rapid development of Hay River as the center of the commercial fishing industry, the anticipated growth of its function as a transportation center servicing the settlements and mines of the District of Mackenzie progressed slowly.

Prior to the completion of the highway, the upgrading of the winter road allowed goods to be brought to Hay River by truck. At Hay River, these goods were transferred to tractor train for shipment across Great Slave Lake to Yellowknife. In the winter of 1946-47, large quantities of goods were air freighted over the lake at considerable expense.[57] As a result, Hay River grew slowly as a transshipment point for goods destined for Yellowknife. This function grew especially in the summer open water season although the bulk of the goods destined for Yellowknife travelled by the water route north of Waterways. The cost of freighting to Yellowknife from Waterways was cheaper than via Hay River; but the Hay River route provided a quicker service which could be carried on much later into the fall after the closure of the Athabasca-Slave River route due to low water and ice formation.[58]

In 1949, Yellowknife Transportation Company, recognizing the advantage of the fast overland route to Hay River and the short lake haul to Yellowknife, announced its intention of operating a twice weekly freight and passenger service between the two communities. A converted landing craft, the Yellowknife Expeditor, could handle approximately 250 tons of cargo, 40 tons of refrigerated products and 50 passengers. Its shallow draft (2 m, 7 ft.) would enable it to enter the shallow Hay River channel under normal conditions. The travel time to Yellowknife was estimated at only seven hours.

Despite protests by Northern Transportation Company and McInnes Products which had licenses for shipping freight north from Waterways, the Board of Transport Commissioners of Canada, in early 1950, gave permission for the operation of this twice weekly service.[59] In anticipation of this competition, Northern Transportation Company operated a monthly tug and barge service between Hay River and Yellowknife from June to September 1949, but discontinued services the following summer. McInnes Products offered a twice weekly service from Hay River to Yellowknife, one for freight and one for perishables. This service, however, only commenced in September after the closure of service from Waterways.[60]

The Yellowknife Expeditor operated throughout most of the summer of 1950, on a twice weekly basis in conjunction with freight trucking companies and Canadian Coachways. A person or express freight could leave Edmonton at 8 A.M. Saturday and arrive in Yellowknife at 10 P.M. Sunday, a travel time of only 38 hours.[61] Some delays were caused by rough road conditions and lack of effective dredging of Hay River channel.[62]

In spite of this new route to Yellowknife in the summer open water season, the bulk of freight continued to be shipped north from Waterways by the Northern Transportation Company. Water transportation provided cheaper rates. Cargoes were handled in larger quantities and unit prices were lower. The cost of trucking from Grimshaw had to cover the expensive wear and tear of equipment over the still unimproved Mackenzie Highway. Even the close proximity of Hay River to Yellowknife provided no particular advantage in the early part of the season because boat traffic from Waterways could reach Yellowknife just as easily as from Hay River. The river route opened for traffic in May, but the slow break-up of ice on Great Slave Lake delayed traffic until late June or July.[63] Yellowknife Transportation Company took advantage of the late freeze-up of Great Slave Lake to ship good from Hay River as far north as Norman Wells in the second week of October, after the northbound freight from Waterways had ceased.[64]

In the 1950s, there was a slow increase in the amount of freight shipped north from Hay River as the highway improved and customers demanded a more regular and faster service.[65] But not until the 1960s, with the construction of the Great Slave Lake Railway to Hay River, did it take on its principal function as the center for water transportation in the western Northwest Territories.

The construction of winter roads and all-weather roads northwards from Hay River took away some of its potential as a transshipment point. The winter tractor trains to Yellowknife passed through Hay River because it lay on the best route. Tractor trains did not make any major changes to Hay River as the loads were not transferred to other forms of transport. In the winters, 1947-48, 1948-49 and 1949-50, the old CANOL Project winter trail from Alexandra Falls to Mills Lake on the Mackenzie River along the escarpment was ploughed and upgraded in order that freight supplies for Yellowknife Transportation Company could be stockpiled for the following summer season. By by-passing Hay River and Great Slave Lake and going directly to the head of the Mackenzie River which broke up in May, this company opened its shipping season one month earlier than Northern Transportation Company which had to wait until June before the break up of ice allowed their vessels to cross Great Slave Lake from the mouth of the Slave River.[66] Therefore, a winter terminus at Hay River had no advantage in the early part of the season. A small settlement, Enterprise, 45 km (28 mi) south of Hay River began to develop in the winter of 1948-49 to service trucks that went to Mills Lake instead of Hay River.[67]

Direct access to Yellowknife by a winter road for trucks was proposed in the winter of 1948-49 in order to transport freight that had failed to reach that location in the summer of 1948.[68] Bond Construction, after completing the Mackenzie Highway, received a contract from the Federal Government to construct a winter road around the western shore of Great Slave Lake. This road would replace the winter tractor road over the lake ice which was expensive, slow, and dangerous. The initial route crossed over the west part of the lake from Hay River to Slave Point and then followed the low terrain of the northwest shore to White Beach on the North Arm. After crossing the narrow North Arm, the road passed overland into Yellowknife.[69] Some freight reached Yellowknife in late spring of 1949, but in the following winter, the road was considered too rough and most of the traffic crossed over the ice route.[70]

In 1955-56, new attempts were made to reopen this west shore route, and by 1960, an all-weather road with a ferry in summer and an ice bridge in winter near Fort Providence replaced the routes across Great Slave Lake.[71] The new highway provided all year round access to Yellowknife except for freeze-up and break-up. Much of the freight that had passed through Hay River enroute to Yellowknife by tractor train and boat across Great Slave Lake was diverted to this new route and by-passed Hay River.

Growth of the Settlement of Hay River

Prior to the Second World War, the settlement of Hay River was essentially restricted to the higher east bank of the main channel of the river where it received protection from periodic spring floods. It possessed a linear form bounded at the north end by the Roman Catholic Mission and at the south end by the Anglican Mission. The population throughout the early twentieth century remained at approximately 100-125 people. The majority, Slavey Indians, carried on a traditional hunting and trapping life style using Hay River as a home base from which to visit their camps in the Hay River Valley and Buffalo Lake areas. With the closure of the residential school in 1937, the population declined and buildings were under utilized. Even the construction of the winter tractor road through the settlement did not stimulate major changes because abandoned Anglican mission buildings provided for the needs of the tractor companies. The advantages of the site for agricultural production declined in importance because of the construction of the highway and the availability of inexpensive store bought food.

The construction of the CANOL Project airstrips on Vale Island in 1942 and the location of the terminus of the all-weather Mackenzie Highway in the northeast corner of the island in 1945 created a new growth center for Hay River. Despite access to southern roads and air services, the river mouth harbor and Great Slave Lake, Vale Island provided an unsuitable site for the construction of a large town to accommodate the expected commercial fishing and transportation industries along with the associated personnel. Much of the land was low lying, subject to flooding, contained areas of muskeg and ground ice with a high water table and reduced natural drainage. The construction of the highway itself increased the possibility of flooding and added to the unsuitability of the site. In order for the highway to reach the northeast corner of Vale Island, four earth causeways had to be constructed across the head of the West Channel and minor channels that separated the small islands in the main river. These causeways, especially the first mentioned, redirected spring flood water down the main river and increased the danger of flooding.[72]

In 1944, the CANOL Project airstrips passed into the control of the Department of Transport and radio communications to the Royal Canadian Corp of Signals.[73] By 1946, Canadian Pacific Airways had built an office at Hay River and provided a regular weekly service between Hay River, Yellowknife, and Peace River.[74] In the fall of the same year, the highway construction company, Bond Construction Company, built a camp near the airport. An Imperial Oil Company fuel depot was also built in anticipation of increased road traffic. The fuel supplies came by barge from Norman Wells to the water front site in the northeast corner of Vale Island. At the same time the R.C.M.P. reopened a detachment and a small restaurant was constructed.[75]

In anticipation of a population increase following the completion of the Mackenzie Highway, six new blocks of lots were surveyed in 1946 and 1947. They were located north of the riverside lots marked out by Lawrence in 1939 on lower ground closer to the mouth of the river (Fig. 23).[76]

By the summer of 1948, the population of Hay River consisted of 125-150 treaty Indians, 50-75 metis, 75-100 nonnative as well as the highway construction personnel. Nearly all the usable lots in the new Vale Island subdivision were bought or leased and many new buildings were complete or under construction. These included besides residences, the R.C.M.P., Royal Canadian Corp of Signals, Department of Transport, Federal Day School and teacherage, two restaurants, two boarding houses, pool hall, fuel depot, and general store (Fig. 24).[77]

In the previous winter, four fishing companies had established themselves in Hay River and one returned during the late summer of 1948. Three were located in temporary rented buildings in the original settlement on the east bank of the river and the fourth in the new townsite on Vale Island. With the near completion of the Mackenzie Highway

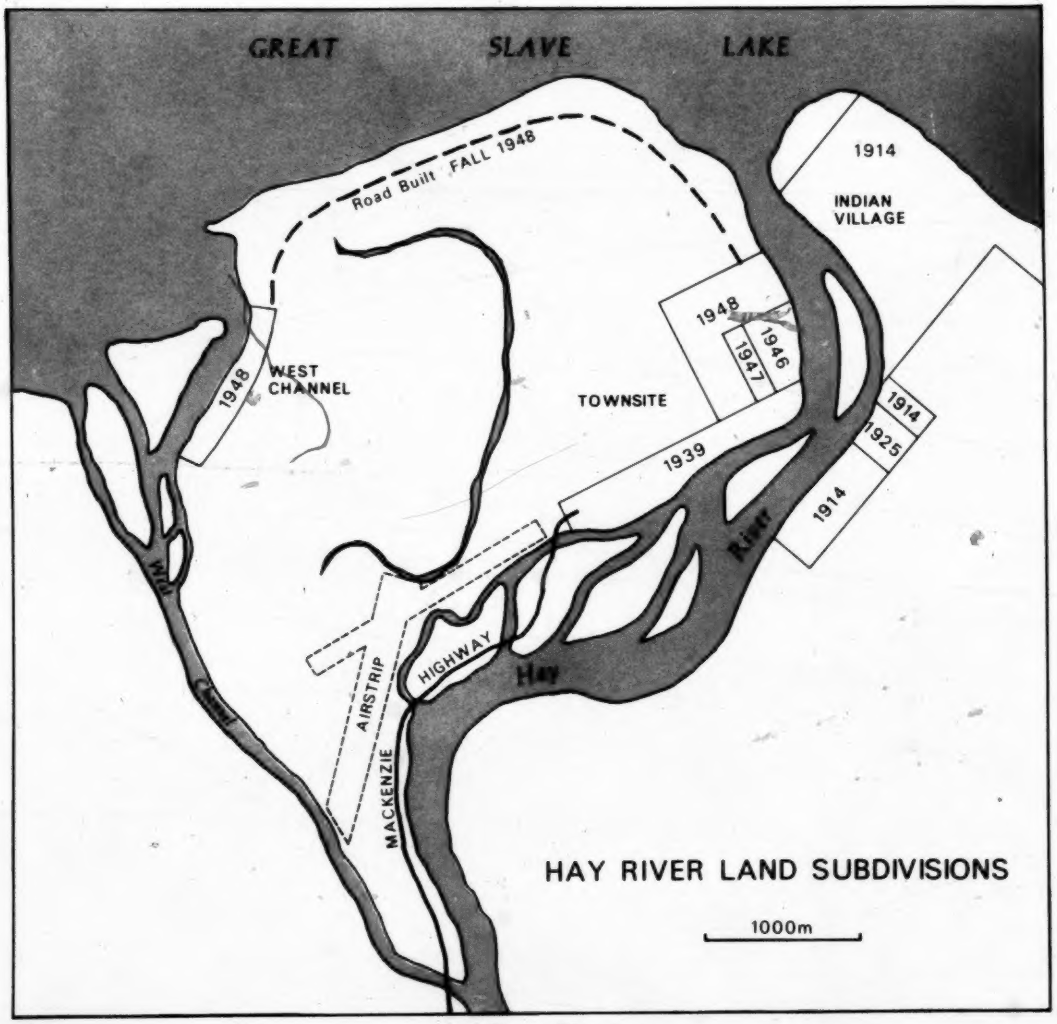
GREAT SLAVE LAKE
Road Built FALL 1948
1914
INDIAN VILLAGE
1948
1946
1947
1948
WEST CHANNEL
TOWNSITE
1939
1914
1925
1914
River
Hay
HIGHWAY
AIRSTRIP
MACKENZIE
West Channel
HAY RIVER LAND SUBDIVISIONS
1000m

Figure 23

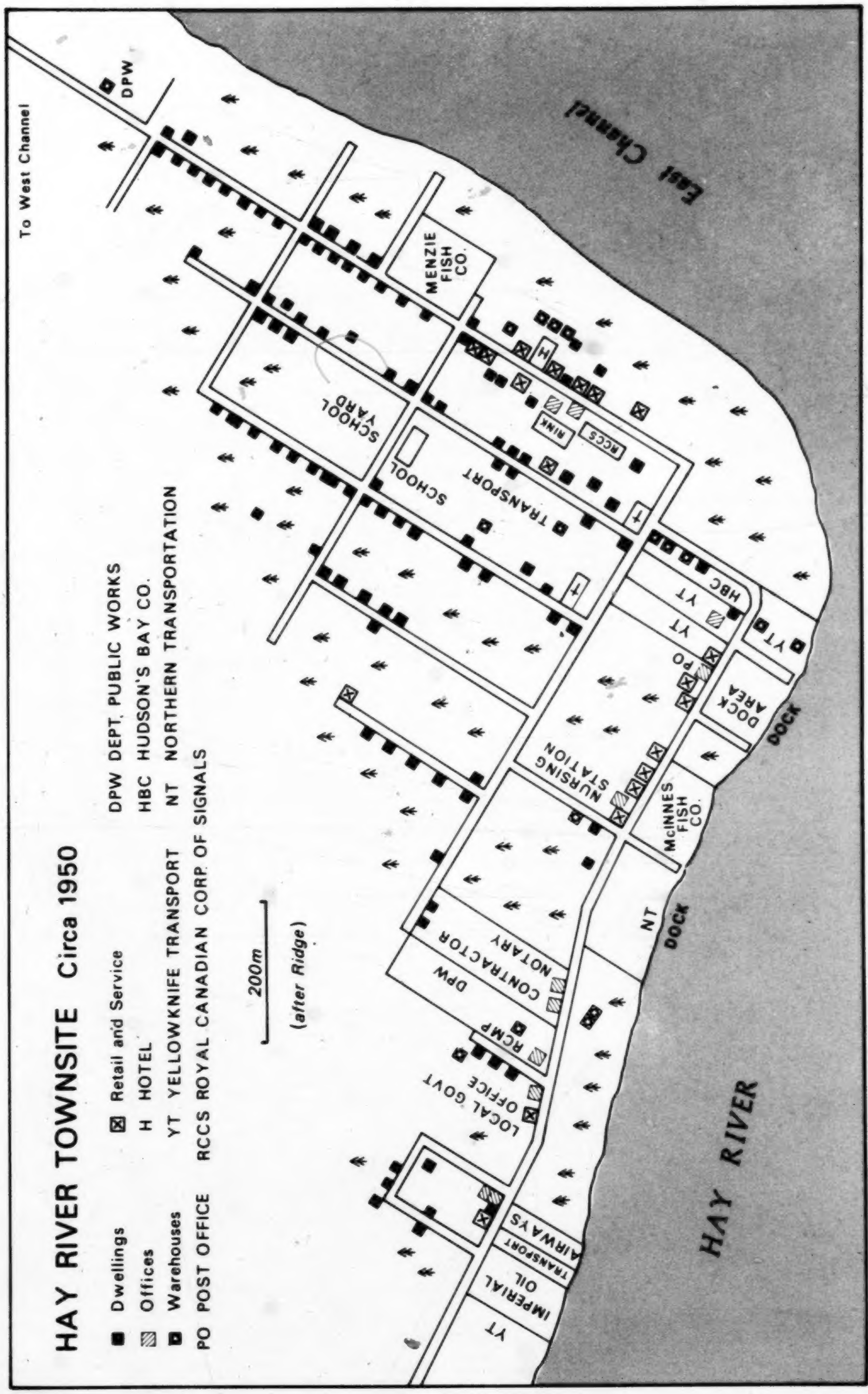
HAY RIVER TOWNSITE Circa 1950
■ Dwellings
▨ Offices
◘ Warehouses
PO POST OFFICE
☒ Retail and Service
H HOTEL
YT YELLOWKNIFE TRANSPORT
RCCS ROYAL CANADIAN CORP. OF SIGNALS
DPW DEPT. PUBLIC WORKS
HBC HUDSON'S BAY CO.
NT NORTHERN TRANSPORTATION
200m
(after Ridge)
To West Channel
DPW
East Channel
MENZIE FISH CO.
SCHOOL YARD
SCHOOL
TRANSPORT
RINK
RCCS
H
HBC
YT
YT
YT
PO
DOCK AREA
DOCK
NURSING STATION
McINNES FISH CO.
NT
DOCK
CONTRACTOR
NOTARY
DPW
RCMP
LOCAL GOVT OFFICE
AIRWAYS
TRANSPORT
IMPERIAL OIL
YT
HAY RIVER

Figure 24

and the probable influx of more fishing companies, concern was expressed by local residents, store keepers, missionaries, and government officials as to the most suitable location for these companies. Although little pollution of the river and ground had taken place near the four companies, relocation was recommended by all concerned for several reasons. The original settlement on the east bank of the river could only be reached by boat in the summer. The native population had been adversely influenced by the influx of a large number of nonnative fishermen.[78] The location of fish plants in the new townsite was considered unsuitable because of the potential for pollution. No piped water or sewage system existed in the townsite. Poor drainage caused by flat land and a high water table could lead to stagnant polluted water and possible typhoid epidemics. Pollution of the main channel could be a health hazard because household water was collected from the river or river ice. Permafrost and impervious layers inhibited the normal function of cesspools for sanitary waste.[79] It was evident that a large influx of people as well as industrial use would place a heavy burden on the new townsite. Over 400 fishermen and 1000-1200 shore-workers were expected in the winter 1948-49.[80]

Three alternative locations for the fishing companies were proposed. One on the east bank of the river south of the original settlement was quickly dismissed as unsuitable because of the lack of access to the Mackenzie Highway and the potential for river pollution. The second location at the northern edge of the townsite near the mouth of the main channel would allow any pollution to be swept downstream away from the town. Although close to the mouth of the river, there was sufficient protection from northwesterly storms. This location would be accessible to workers and businessmen from the townsite and any improvement of municipal services such as sewer, water, and garbage collection would be less expensive. On the contrary, the low ground and shallow water of the site would require buildings to be constructed away from the water's edge to prevent flooding and jetties built to give access for boats to the shore. Although not chosen, this area was reserved for storage of dredging and transportation equipment.

The northwest corner of Vale Island, at the mouth of the West Channel, proved to be the most acceptable location for the fish companies. It was sufficiently far away to prevent air and water pollution of the townsite; yet it could be reached by a short road along the sandy shore of Vale Island. Neither the fishing community nor the road would conflict with any expansion of the airport. A water channel of at least 2 m (6 ft) gave access to the lake. The sandy bottom of the channel could be easily dredged to allow a passageway for larger vessels. The river bank site gave some protection from flooding and could be easily cleared of its light forest cover. Ample space was available for storage of equipment and boats.[81] The main objection put forward by the fishing companies was that because of the causeway across the head of the West Channel, there was little flow of water to carry away any pollution and wash away sediment accumulating at the mouth of the channel. Water would, therefore, have to be hauled to the fish plants and frequent dredging of the river mouth would be necessary. The separation of the two new communities would lead to the increase of municipal expenses and isolate the West Channel community from all the services and amenities of the townsite. These objections were dismissed by government officials. They stated that water currents along the lake shore were sufficient to carry away much of the pollution and that the sand bars had been created by the spring flood waters flowing down the West Channel. Any further accumulation of sediments could be easily dredged. Houses for company workers could be built, if necessary, midway between the fish plants and the amenities of the townsite. Any danger to health could be prevented by careful use of water and the disposal of garbage.[82]

In the fall of 1948, Bond Construction Company, after completing the Mackenzie Highway, constructed a narrow 4 m (12 ft) road to the mouth of the West Channel along the shore of Great Slave Lake and improved some of the roads in the townsite to carry the weight of heavily laden refrigerator trucks.[83] A series of river bank lots were surveyed at the mouth of the West Channel and a road allowance at the rear of the lots gave the fishing companies direct access to the river channel and the road. In the winter of 1948-49, seven companies built fish plants in Hay River, the majority of them in the West Channel village. However, the two largest companies, W.R. Menzies and McInnes Products, built their plants within the new townsite on waterfront property purchased prior to the completion of the highway.[84]

In the summer of 1949, an additional seven blocks of lots were added to the new townsite because many of the lots within the earlier subdivisions if not already occupied had poor drainage making them unusable. No further subdivision of the West Channel village or intermediate areas took place in order to encourage the orderly expansion of the new townsite.[85] Hay River became a Local Administrative District in April 1949, with a Board of Trustees and a Municipal Council with authority over the new townsite and the West Channel village.

By 1950, Hay River consisted of the original settlement on the east bank of the main channel, the slowly expanding new townsite with its ribbon of commercial and transportation development extending along the Mackenzie Highway near the waterfront, and the fishing village at the mouth of the West Channel. In effect they were three separate and distinct settlements forming a fragmented town.

The original settlement remained isolated from the development of Vale Island. The native population continued their traditional hunting and trapping economy. Unable to obtain any advantage from the expansion of the commercial fishing, they received protection for their domestic fishery by the creation of a noncommercial zone around the mouth of the Hay River.[86] The West Channel fishing village became isolated from the new townsite not only by distance, but by the nature of its function and the large number of transient employees.

The largest community, the Vale Island new townsite, struggled to make effective use of its site. The waterfront and warehouse areas along the main channel flooded periodically, the residential section had very poor drainage and roadways, and the commerical area spread thinly along the Mackenzie Highway as a result of land speculation. By the early 1950s, despite the fact that the functions of the new townsite depended on the waterfront location, it was suggested that the only complete solution to the site problem required the abandonment of the site in favour of a more suitable one.[87] This eventually did occur in 1963 but only after a disastrous flood spread through the townsite in May of that year. Even then, the new town created on the mainland south of Vale Island contained only residential, commercial, and administrative functions. Fishing and transportation remained on Vale Island close to the waterfront.

Summary

The situation potential of Hay River as a commercial fishing center and a transportation center slowly increased during the late 1930s and the Second World War with the construction of winter roads to Hay River, Great Slave Lake, and more distant points such as Yellowknife and the Mackenzie River Valley. The main factor behind the actual construction of the route was the rapid growth of Yellowknife in the late 1930s and the demand for more regular, quick, and all year round service which the traditional water transportation could not supply.

The failure of water transport in the fall of 1938 led to the construction of the first winter tractor train road into the Northwest Territories in order to ship essential supplies to Yellowknife. The route chosen along the Hay River Valley to Hay River and then eastward along the south shore of Great Slave Lake best suited the needs of Yellowknife rather than those of the whole Mackenzie District. A route to the head of the Mackenzie River and along the northwest shore of the lake would have served both Yellowknife and the Mackenzie Valley. However, the immediate concern was to assist Yellowknife. Since both time and money were limited, the route along the Hay River Valley over low terrain and across the ice of Great Slave Lake was chosen. Hay River was situated on this winter route and with the rapid expansion during the CANOL Project it slowly gained better access to the south by land and air.

The increased accessibility of Hay River caused by the upgrading of this winter road to the all-weather Mackenzie Highway in 1948 enabled the commercial fisheries that had commenced at Gros Cap in 1945 to switch its center of operation to Hay River. The new highway facilitated fast regular access to the lake. Both fresh and frozen fish could be sent to southern markets more cheaply than by the water route to Waterways. Because the fresh fish industry needed little capital outlay, many fish companies took the opportunity to make quick profits from the newly opened lake and established their headquarters at Hay River at the terminus of the highway and within sight of the lake.

Although the commercial fishery expanded rapidly as a result of the highway construction, the transportation function of Hay River progressed slowly. Water transportation remained relatively cheap and provided for the bulk of the freight transportation to Yellowknife and the Mackenzie River Valley. Hay River possessed no major situational advantage over the more southerly head of navigation at Waterways because of the late spring break-up of Great Slave Lake. But, Hay River, because of the short water haul to Yellowknife, had the advantage that it could provide a regular frequent service for passengers, perishable goods, and express items which could bear the additional expense of combined road and water transport. This situational advantage was of greater importance in the fall because long after the closure of the river route from Waterways goods could still be shipped from Hay River to Yellowknife across the still unfrozen Great Slave Lake. Hay River, because of its northern location was well situated to provide transhipment services from road to air especially during the spring and fall seasons when neither water nor winter trucking transportation were operative.

With the northern expansion of roads, some of Hay River's situational advantage decreased and some of its function as a transshipment center declined. Branch roads to Mills Lake at the head of the Mackenzie River and eventually to Yellowknife took traffic and business away from Hay River. But, as the Mackenzie Highway improved and more particularly with the construction of the Great Slave Lake Railway in 1964, the advantage of the river route from Waterways declined and Hay River took on more and more the function of a transportation center and the head of navigation.

In the period 1948-50, Hay River grew rapidly not only in population but in area. The original settlement on the east bank of the main channel remained isolated from the new developments in the new townsite and West Channel fishing village on Vale Island. This rapid physical growth led to problems in site development. The necessity for access to the Mackenzie Highway and the waterfront influenced the location of the new townsite in the northeast corner of Vale Island. Here, the land was generally low lying, poorly drained, and underlain by patches of permafrost which caused problems of flooding, sanitation, and road and utilities construction. Not until the construction of the new town on the mainland in 1964 were some of these problems alleviated to some extent.

By contrast, the West Channel fishing village which was located away from the main townsite because of potential pollution problems served the needs of the fishing industry. The high, sparsely wooded river bank provided a dry stie for the construction of fishing plants, houses, and the storage of equipment. The West Channel gave access to the lake and a narrow road linked the village to the townsite and the Mackenzie Highway. The situation of the original settlement on the east side of the East Channel allowed access to the traditional hunting and fishing areas but isolated it from both the amenities and problems of the rapidly growing townsite.

Footnotes

[1] For a general overview of winter roads in the Mackenzie Valley see W.C. Wonders, "Roads and Winter Roads in the Mackenzie Valley Area," Occasional Papers No. 3, B.C. Division, Canadian Association of Geographers (Vancouver, 1962): pp. 1-19.

[2] Nor'West Miner, January, 1937, pp. 9-11.

[3] W.A. Fallow, "Alberta Looks North," Canadian Aviation 12 (April, 1939): 41; AA, Fallow Papers, Acc. No. 68.307/41, Follow to Stefansson, July 16, 1940.

[4] PAC,RG85, vol. 1179, file 351-2-18, part 1, Norrish to McLeish, October 19, 1937.

[5] AA, Fallow Papers, Whitlow et al to Fallow, January 20, 1939.

[6] Winter tractor rate Waterways to Yellowknife, $175 per ton, Nor'West Miner, November, 1938, p. 3.

[7] Peace River Record, September 17, 1937, March 17, 1938.

[8] Some 300 tons were transported by Corser and Duncan from Waterways by tractor train but more was required. Peace River Record; December 9, 1938; PAC,RG85, vol. 1179, file 351-2-18, part 1, Drummond to Gibson, November 28, 1938.

[9] The Alberta Government provided men and equipment. The Federal Government allocated $70,000, paying 2/3 of the cost of the Alberta section, Edmonton Journal, January 10, 1939.

[10] PAC,RG85, vol. 1179, file 351-2-18, part 2, J.H. Johnston to Keith, December 24, 1936 [1938]; Gibson to Camsell, December 31, 1938; Notes of Discussion of Route, Upper Hay River Post to Providence, January 3, 1939.

[11] AA, Fallow Papers, Edgecombe et al to Fallow, January 6, 1939; Peace River Record, March 10, 1939.

[12] PAC,RG85, vol. 1179, file 351-2-18, part 1, Narraway to McLeish, January 30, 1939.

[13] Even in late January and early February the final destination of the overland road was not certain, although the route to Hay River was chosen for expediency to alleviate Yellowknife's problems it was the route to Providence which eventually became the right of way for the permanent all-weather road to Yellowknife, PAC,RG85, vol. 1179, file 351-2-18, part 1, Wright to Gibson, February 2, 1939.

[14] Brushcutters were caterpillar tractors modified to uproot and clear a roadway through the forest.

[15] Peace River Record, February 10, March 10, 1939.

[16] PAC,RG85, vol. 1179, file 351-2-18, part 1, Grew to McLeish, April 7, 1939.

[17] Nor'West Miner, April, 1939, p. 1; Edmonton Journal, April 13, 1939.

[18] PAC,RG85, vol. 344, file 672-1, Gibson to Meikle, January 14, 1939.

[19] Ibid., Gibson to Meikle, May 4, 1939.

[20] Ibid., McInnes to Meikle, July 31, 1939. McInnes Company was involved in both fishing and transportation in the Lake Athabasca area.

[21] Ibid., Meikle to Gibson, July 11, 1939. The survey was made by Lawrence July 8, 1939, PAC, National Map Collection, H2/740, Plan of Hay River Settlement, N.W.T., Third Edition, 15 March, 1946.

[22] PAC,RG85, vol. 1178, file 351-2-18, part 2, Henderson to McLeish, February 15, March 19, 1940.

[23] Ibid., Henderson to McLeish, March 5, 1940. Bridges were built over creeks and brushcutters widened the right of way. Tractors pulling sleighs as well as trucks with trailers and cars used the road to and from Yellowknife.

[24] Edmonton Journal, January 25, February 3, March 27, 1941, April 2, 1942.

[25] Discussions between the governments of the U.S.A. and Canada had taken place in the late 1920s and 1930s. V. Stefansson discussed the merits of the various proposed routes and noted that the route that passed through the N.W.T. had the advantages of the flatter terrain, less snow and rockfalls, shorter distance, partially completed, and its own fuel supply. Vilhjalmur Stefansson, "Roads to Alaska," Foreign Affairs, 19, (1940-41): 861-869. Despite these advantages a route linking the airfields in northern British Columbia and Yukon Territory was followed to form the "Alaska Highway" in 1942.

[26] P.S. Barry provides a recent overview of the CANOL Project, P.S. Barry, "The Prolific Pipeline: Getting CANOL Underway," The Dalhousie Review, 56 (Summer, 1976): 252-267.

[27] Peace River Record-Gazette, October 9, 1942.

[28] Cars, trucks and tractor trains used the winter roads in large numbers. A journey to Hay River from Peace River took only 24 hours. Fresh produce at moderate prices were being sent north from Peace River. Peace River Gazette, February 5, 1943; AA,DA,A320/877, Sovereign to Richards, February 6, 1943; Trevor Lloyd, "Oil in the Mackenzie Valley," Geographical Review 34 (1944): 275-307.

[29] Richard S. Finnie, "The Origin of CANOL's Mackenzie Air Fields," Arctic 33 (June 1980): 273-279.

[30] AA, A.M. Berry Papers, Acc. No. 72.295/20, Correspondence to Bechtel, Price and Callahan, Berry to Seaberry, July 27, August 17, August 27, September 27, 1942.

[31] PAC,RG85, vol. 1178, file 351-2-18, part 2, Champagne to Gibson, January 10, 1944.

[32] Ibid., Drummond to Gibson, November 22, 1943. Uranium concentrates from Great Bear Lake were required during the Second World War and low water had prevented the completion of upstream transportation by boat.

[33] Ibid., Champagne to Gibson, February 7, 1944.

[34] Ibid., file 351-2-18, part la, Martin to Mills, October 10, 1944.

[35] The combined Chambers of Commerce of the Peace River District published a 13 page brief advocating the construction of a road or railway to Mills Lake, at the head of the Mackenzie River, Peace River Record-Gazette, November 23, 1943.

[36] AA, Fallow Papers, Memorandum of Agreement, November 3, 1945, Dominion of Canada and Province of Alberta.

[37] PAC,RG85, vol. 1179, file 351-2-18, part 3, Editorial and Information Section, Department of Mines and Resources, Bulletin No. 307Q.

[38] Peace River Record-Gazette, May 19, 1949; Edmonton Journal, 12, 15, August, 1949.

[39] This view was put forward by the Acting Agent of the Government of the N.W.T. at Fort Smith and was supported by the fact that applications were made to build hotels at Alexandra Falls to accommodate people using the road. PAC,RG85, vol. 1178, file 351-2-18, part 2, Urguhart to Gibson, March 15, 1943, vol. 344, file 672, Gibson to Meikle, February 20, 1943.

[40] PAC,RG85, vol. 1179, file 351-2-18, part 3a, Campbell to Mills, November 15, 1945; C.S. Lord, 1951, pp. 16-17.

[41] PAC,RG85, vol. 1178, file 351-2-18, part 1a, Martin to Mills, October 10, 1944.

[42] AA,DA,A320/455, Sovereign to Neville, October 25, 1945.

[43] In 1929, DeMelt applied for more land to expand his business in anticipation of railway development to Hay River, PAC,RG85, vol. 344, file 672-1, DeMelt to Finnie, August 28, 1928, McDougal to Finnie, September 30, 1929; R.T. Rodd also applied for commerical licence in 1929, J.J. Keleher, A Documented Review of Great Slave Lake Commercial Catch Regulations. Fisheries Research Board of Canada, Manuscript Report Series (Biological) No. 715 (London, Ontario, 1962), p. 5; other small commerical fisheries took place at Buffalo River and Yellowknife Bay.

[44] A discussion of the commerical fishery of the N.W.T. in 1941 is found in PAC, Minutes of the Northwest Territories Council, 1921-51, MG9 G1 (PAC Reel M-814), Extract from Minutes of the One hundred and thirty seventh Session of the Northwest Territories Council held on December 23, 1941; PAC, RG85, vol. 1096, file 431/178, Viking Fisheries to Gibson, April 24, 1944 Whitemore to Gibson, September 17, 1942.

[45] D.S. Rawson, Reports for 1944 of the Northwest Fisheries Investigations, A. Great Slave Lake, Canada, Annual Report of the Fisheries Research Board of Canada for the Year 1944 (Ottawa, 1945), appendix 6 part a.

[46] Descriptions and production figures of the commercial fisheries for 1945-50 are found in Canada, Department of Fisheries, Annual Reports, Department of Mines and Resources, Lands, Parks and Forest Branch, Annual Reports, Ottawa, Department of Fisheries and Oceans, "Reports for Commercial Fisheries on Great Slave Lake," Hay River, also see PAC,RG85, vol. 1096, file 431/178, Report on Commercial Fishing in

Great Slave Lake 1945 by M.B. Bell; W.A. Kennedy, The First Ten Years of Commercial Fishing on Great Slave Lake, Canada, Fisheries Research Board of Canada Bulletin No. 107 (Ottawa, 1956); Roy Schlader, Edmonton provided information regarding McInnes Products expansion to Great Slave Lake, Interview November, 1980.

[47] The distribution of summer and winter fisheries from 1945 to 1950 was mapped by D.C. Scott, The Commerical Fishing of Great Slave Lake during the Summer 1955 with Additional Data from Previous Years, Canada, Fisheries Research Board, Manuscript Reports of Great Slave Lake Investigations, no. 16 (Winnipeg, 1956), figs. 2-12.

[48] Aircraft were used in the winter fisheries at a later date but only to and from Hay River.

[49] The cost of transportation from Hay River to Grimshaw in summer 1948 was about 4¢ per pound. Fishermen at Hay River received 7¢ per pound for dressed whitefish whereas fishermen at Gros Cap received only 4¢ per pound. The Gros Cap fish were exported frozen whereas the Hay River fish were exported fresh. It was also expected that freight rates to the railhead would be reduced 2¢ per pound if trucks could obtain an incoming cargo, Canada, Department of Fisheries and Oceans, "Great Slave Lake Summer Commercial Fishery Report of 1947," "Great Slave Lake Report Summer 1948," (Hay River, 1947,48).

[50] In wintertime freshly caught fish had to be kept warm to prevent freezing and loss of quality and value. Special trucks were used to maintain the cool temperature of the fresh fish on ice and refrigerator trucks for the frozen fish.

[51] PAC,RG85, vol. 1096, file 431/178, Great Slave Lake Mid Winter Report (December 12, 1947 to January 10, 1948), D.M. Stewart, January 19, 1948.

[52] Keleher, 1962, p. 41.

[53] Canada, Department of Resources and Development, Development Services Branch Annual Report Year Ending, March 1950 (Ottawa, 1951): pp. 85-86.

[54] Canada, Department of Resources and Development, Northern Administration and Lands Branch, Industries of the N.W.T. (Ottawa, 1953): pp. 23-24.

[55] Canada, Department of Fisheries and Oceans, "Commercial Fishing Report, Great Slave Lake, Summer, 1949," (Hay River, 1949).

[56] J.J. Keleher, "Great Slave Lake Fishing Fleet, 1945-63," Canadian Fisherman, February, 1965, pp. 1-6.

[57] Grimshaw Yellowknife Transport took 700 tons to Hay River by truck and then were air freighted to Yellowknife by Peace River Northern Airways. Heavy equipment for the Department of Transport was sent by cat train, Yellowknife, News of the North, March 21, 1947.

[58] A large proportion of 900 tons of freight lost in a fire on Great Slave Lake, on September 22, 1948 was resupplied via Hay River. Trucks carried freight to Hay River and Northern Transportation Company barges carried the goods to Yellowknife as late as the third week of October long after the closure of the Waterways route, News of the North, October 15, 1948, Peace River Record-Gazette, October 14, 1948.

[59] Canada, Board of Transport Commissioners, vol. 40, no. 1, Application of Yellowknife Transportation Company Ltd., Edmonton, Alberta for a licence under Part II, The Transport Act, 1938, re the M/V Yellowknife Expeditor, file 42076.31 (Ottawa, April 1, 1950), pp. 9-17; News of the North, June 10, September 23, 1949.

[60] News of the North, June 24, September 16, 1949, September 1, 1950.

[61] Ibid., July 21, 1950.

[62] Ibid., August 18, 1950, October 13, 1950.

[63] Speech of W.J. Bennett, President, Northern Transportation Company, News of the North, January 20, 1950; News of the North, May 5, 1950; Podmore indicated that the Mackenzie Highway was still a rough "tote road", David Reed Podmore, "An Examination of Motor Carrier Operations in the Mackenzie Valley Area," (M.A. thesis, University of Alberta, Edmonton, Spring 1974): p. 59.

[64] News of the North, October 13, 1950.

[65] Vladimir Salyzn, "Transportation as a limiting factor in economic development," (M.A. thesis, University of Alberta, Edmonton, 1958): pp. 22-28.

[66] This road was opened privately by trucking companies and Yellowknife Transportation Company. In 1948-49, 3000 tons of freight were trucked to Mills Lake rather than Hay River, PAC, RG85, vol. 1179, file 351-2-18, part 3, Meikle to Gibson, December 8, 1948; News of the North, June 16, 1950.

[67] As early as the winter 1942-43 services had been provided near Alexandra Falls for vehicles using the CANOL Pro-

ject winter roads. Here the winter roads from Peace River, Hay River, Fort Smith and Mills Lake met. News of the North, February 18, 1948.

[68] PAC,RG85, vol. 127, file 35-3-109, part 1, Gibson to Deputy Minister, October 7, 1948.

[69] Peace River Record-Gazette, January 6, 1947; News of the North, February 4, 1949, Nor'West Miner, Jan-Feb., 1949.

[70] News of the North, January 13, 1950, March 3, 1950.

[71] Podmore, pp. 59-61.

[72] PAC,RG85, vol. 1180, file 351-2-18, part 3f, Campbell to Mills, May 8, 1947; AA,DA,A320/456, Neville to Sovereign, October 1, 1946.

[73] "A Short History of Hay River, N.W.T., and the Royal Canadian Signals stationed there," (Hay River, Centennial Library, n.d.).

[74] By January 1947, Peace River Airways Northern Airlines also connected Hay River with Yellowknife and Peace River, AA,DA,A320/456, Sovereign to Neville, August 6, 1946, January 11, 1947.

[75] News of the North, September 26, 1946; AA,DA,A320/456, Sovereign to Neville, October 10, 1946.

[76] PAC,RG85, vol. 127, file 35-3-109, part 1, H[illegible] River Settlement, Northwest Territories.

[77] News of the North, July 30, 1948; PAC,RG85, vol. 1096, file 431/178 Memo Re Sanitary Conditions at Hay River, N.W.T., Richardson, July 9, 1948.

[78] Liquor and gambling had become problems, PAC,RG85, vol. 1096, file 431/178, Solman to Lewis, July 15, 1948.

[79] PAC,RG85, vol. 1096, file 431/178, Richardson, July, 1948.

[80] Ibid., Meikle to Gibson, October 16, 1948.

[81] Ibid., Solman to Lewis, July 15, 1948.

[82] PAC,RG85, vol. 127, file 35-3-109, part 1, Solman to Lewis, October 18, 1948.

[83] Ibid., Mills to Gibson, October 1, 1948.

[84] PAC,RG85, vol. 1096, file 431/178, Report to R.A. Gibson, November 24, 1948.

[85] PAC,RG85, vol. 127, file 35-3-109, part 1, Gibson to Fraser, May 19, 1949.

[86] PAC,RG85, vol. 1254, file 432-178-2, Fisheries Act - Special Regulations for the Northwest Territories, November 8, 1949.

[87] F. Gerald Ridge, "General Principles for the Planning of Sub-Arctic Settlements," (Ph.D. thesis, McGill University, Montreal, 1953): p. 366.

CHAPTER IX

CONCLUSION

The small groups of aboriginal people in the Hay River area lived an independent lifestyle adapted to the environment, its seasonal and periodic changes. Little contact was made with other groups of people and movement was limited to the local area in order to effectively use the resources of the environment. Sheltered camp sites by large lakes such as Great Slave Lake, Buffalo Lake, and Lake Bistcho were most often occupied as these lakes provided a regular source of fish, a major part of the diet.

With the expansion of the fur trade into the Hay River Valley, changes took place not so much in terms of lifestyle, but in patterns of occupation and movement of indigenous people as they became more involved with the fur trade. In turn, the fur trade adapted itself to the environment and the indigenous population in order to effectively exploit the fur resources of the area.

Chipewyan Indians moved south and west from their traditional homelands into the "Beaver Lands" south of Great Slave Lake in the late eighteenth and earlier nineteenth century to take an active part in the fur trade. Slavey Indians apparently moved westward under this pressure into the upper Mackenzie River Valley.

In order to exploit the rich fur resources of the Hay River area, the North West Company established the first nonnative settlement in 1806. This settlement, a small trading post, was situated in the heart of the "Beaver Lands" near Meander River. Here, the post could effectively utilize the experience of the Chipewyan hunters in exploiting the fur resources. Despite its situation away from the traditional water routes of the Mackenzie River system and the Peace River, the post was successful because of the abundance of furs and the effective use of the north-south corridor between Great Slave Lake with the Lower Peace River which gave access to the main fur trade routes. The detailed site factors of the post are unknown except that it was on the water front along the west bank of the river which provided fish, transportation, and some protection from unfriendly visitors. Because of the small size of the settlement, the actual building site was not a critical factor at this stage.

The North West Company Post remained occupied until1820 exploiting the furs of the Hay River area and serving the Slavey Indians from the Upper Mackenzie Valley after the closure of the posts in that area in 1815. Up to this time it withstood competition from the Hudson's Bay Company.

The closure of the post in 1820 is related not only to the difficulty of access by canoe, dog team, or packhorse, but also to specific events at the post as well as the end of competition between the North West Company and the Hudson's Bay Company with the resultant reorganization of the fur trade. The destruction of the post in 1818, partly caused by poor management, led to a lack of supplies and the disruption of regular trading patterns with the Chipewyan hunters. The end of competition allowedthe new Hudson's Bay Company to continue the fur trade in a more prudent manner and the fur resources of the Hay River area were tapped from the major posts of Fort Vermilion, Fort Resolution, and Fort Simpson which had the advantage of lying on the main York boat routes which followed the large rivers of the Mackenzie River Basin.

Despite the closure of the Hay River Post in 1820, the site continued to be important for seasonal trade because of the abundant food supplies. In the late nineteenth century, a new trading post was built and a small traditional hunting and trapping settlement, Meander River, occupies the site today.

In 1868, the Hudson's Bay Company opened a new post on the Hay River but at the mouth of the river on Great Slave Lake. The purpose of this post was to take over the functions of Big Island Post and Fort Resolution, to serve the Indians of the Hay River Valley, and oppose the "free traders" who entered the Hay River Valley from the Peace River. To a large extent, the Hay River post was not successful and ceased operation ten years later in 1878. Failure was largely due to its situation at the mouth of the river many kilometers away from the lucrative fur bearing areas in the middle Hay River Valley and the main camps of the Indians. Transportation by dog teams over rough trails limited access to the area. The American "free traders" gained access to the Hay River Valley by the overland route from Fort Vermilion. Only with the help of Hudson's Bay Company personnel at Fort Vermilion who utilized pack animals and dog teams along the well marked trail to the "Horse Tracks" did the Hay River post successfully oppose the "free traders" for a short period of time. Later on, the Hudson's Bay Company post at Fort Vermilion controlled the trade of the Hay River Indians because of the ease of access. As a result of the retention of Fort Resolution and the opening of an additional post at Fort Providence near Big Island, the Hay River post failed to gain prominence among the Mackenzie District posts. It was too far removed from the traditional Indian hunting and trapping areas to compete effectively.

The site of the Hudson's Bay Company post at the mouth of the Hay River midway between the Slave River Delta and the entrance of the Mackenzie River provided a distinct advantage. It occupied the only deep well protected harbor on the south shore of the Great Slave ~~Lake~~, and despite the shallow entrance, was used by fur brigades seeking shelter from the beginning of the nineteenth century. With the increase in size and change in design of water transportation equipment from canoe, Yorkboat, flat bottom paddle steamer to tug and barge, the Hay River harbor gained in importance. Navigation aids and some dredging were the only modifications necessary for larger vessels.

The delta, at the mouth of the north flowing Hay River, was subject to periodic flooding, therefore, the Hudson's Bay Company post was constructed on the higher east bank of the East Channel, the traditional site of Indian camps, but well above the entrance of the river for protection against floods and northwinds. Although the high bank gave flood protection, it hindered the transfer of goods to and from boats.

The delta site gave ready access to the fish resources of the river and lake and had potentially good agricultural soils; but one of the reasons for the closure of the post was the inability to provide sufficient food supplies even for a small number of men and families. Lack of fish supplies were caused by natural fluctuations of fish stocks, poor weather, and limited expertise. Few food crops appear to have been planted. Meat supplies were inadequate because the post was situated away from good hunting grounds and the scarcity of Indians able to trade meat products. The ability of the site to produce reliable food supplies became increasingly important as the population grew and the settlement took on different functions.

The fur trade was re-established at Hay River at the turn of the twentieth century because transportation facilities on the Mackenzie River system had improved, a small semi-permanent community around the Roman Catholic and Anglican Missions provided more trade, and the price of furs had increased.

The choosing of an appropriate location was paramount in the long process of establishing a mission and residential school at Hay River. A site which could provide the basic food supplies was a necessity because of the expense and uncertainty of importing supplies by water transportation. The school had to be situated at a place which could effectively serve the students of the Diocese, but at the same time, be close enough to routes to southern Canada to secure necessary supplies and staff. Added to these conditions was the need to locate the mission away from the established competition of the Roman Catholic Church and near populations with an interest in the Anglican Church so that effective use of manpower could be made.

In 1893, Hay River was chosen as the location for St. Peter's Mission, and two years later, the Diocesan School was transferred from Fort Resolution to Hay River. The immediate site of the mission on the east bank of the East Channel between the Indian Village and the old Hudson's Bay Company post provided rich soils for the production of potatoes and vegetables. The nearby river and lake supplied sufficient fish and the surrounding woods and meadows provided timber, fuel, and animal feed. Shortages in supplies were related to lack of manpower and capital equipment rather than to major natural limitations of the site.

These site factors were essential in the struggle for self sufficiency during the late nineteenth century and the first quarter of the twentieth century. But, with the improvement in transportation by water and air and the reduction of freight costs, the need for self sufficiency decreased and the advantages of the site of Hay River and its resources became less important.

Hay River had no permanent Roman Catholic mission in the nineteenth century and its small population had shown continued interest in the Anglican Church in the late nineteenth century. The situation of Hay River close to Fort Resolution enabled St. Peter's Mission to take over the role of residential school in 1895. Hay River lay roughly midway along the Mackenzie River transportation system, thus students could be transported from more northern settlements, and supplies and staff could be brought in from the south. By 1900, Hay River lay within the bounds of Treaty 8 and the residential school received financial aid from the Federal Government.

The residential school at Hay River was not centrally located within the Diocese or near the majority of the Anglican population in the Diocese, and only for a few years did most of the students come from the Upper Mackenzie River area. But, Hay River had the best location to suit the needs of the Diocese taking into consideration the expensive and insecure transportation system at that time and the isolated location of the Anglican communities in the Mackenzie Delta.

With the success of the Anglican Church in the Mackenzie Delta and on the Arctic Coast, the need to relocate the residential school at Hay River, much closer to the home communities of the students, became apparent. Although this was realized in the early 1920s, it was not until 1936 that the new residential school opened at Aklavik. Poor transportation, lack of sufficient local food resources in northern areas, limited finances, and the capital investment in Hay River hindered this relocation. By the 1930s, transportation to the Mackenzie Delta had improved and freight charges were reduced. Paddle steamer service was supplemented by tugs and barges. Air transportation for passengers, mail, and air freight occurred on a regular basis, and wireless services provided rapid communications. Food supplies and staff could now reach northern communities with certainty and at a reasonable cost and therefore, the need for abundant local resources was no longer critical. Strong competition from the Roman Catholic Church in the Mackenzie River Delta stimulated the Anglican Church to concentrate its efforts in the lower Mackenzie Valley or else lose its traditional advantage. With some aid from the Federal Government, which had become involved with education of the Mackenzie River Valley after the signing of Treaty 11 in 1921, the Anglican Church began the construction of a new residential school at Aklavik in 1935.

Hay River no longer held any situational advantage within the Diocese of Mackenzie River. It would not even attract students from the Upper Mackenzie River area as it initially did in the 1890s. St. Peter's residential school officially closed its doors September 1937.

Although Hay River was initially established by the North West Company on the north-south route between Great Slave Lake and the lower Peace River which was later used by the Hudson's

Bay Company to oppose "free traders", Hay River was essentially perceived, during much of the nineteenth and early twentieth century, as one of a network of settlements along the Mackenzie River transportation route. As water transportation improved, the harbor at the mouth of the Hay River gave shelter from lake storms, and forest along the river banks provided essential fuel supplies for paddle steamers. However, with the development and northward expansion of rail, road, and air transport; Hay River was perceived more as a critical point on a direct overland route into the District of Mackenzie rather than as a stopover point on the Mackenzie River system. The importance of this situation increased as exploitation of the area changed from that of furs to minerals and fish. These new industries required faster, more frequent, year round service which could not be completely provided by water transportation because of the inherent character of the river system, vagaries of the weather, and type of equipment. Thus, during the 1920s and 1930s, attempts were made to develop the overland route to Hay River and the District of Mackenzie from the Peace River District.

With the exploitation of these new resources, Hay River assumed the role of transportation and service center and its site and situation were used to the best advantages. The initial overland route by tractor train resulted from the need to send critical supplies to the gold mines at Yellowknife during the winter of 1938-39. This route ran north from the railhead at Grimshaw, along wagon roads and pack trails of northern Alberta, down the Hay River Valley, and along the shore ice of Great Slave Lake to Yellowknife. By following the Hay River Valley to Great Slave Lake, the journey was short, free of rough terrain, and satisfied the immediate needs of Yellowknife. Future road developments improved on this initial winter tractor train route which passed by Hay River.

This route gave access to the expanding mining activity around Yellowknife and the fish resources of Great Slave Lake. It also increased the possibility for the replacement of Waterways by Hay River as the new head of navigation on the Mackenzie River transportation system. Slow improvement of the roadway during the 1940s, especially during the CANOL Project, enabled Hay River to begin its transportation and service functions. But, not until the completion of the all-weather Mackenzie Highway from Grimshaw to Hay River in 1948, did these functions start to expand rapidly.

This new situation at the end of the all-weather highway which linked the fish resources of Great Slave Lake to southern markets enabled Hay River to become the service center for the commerical fisheries of Great Slave Lake which commenced at Gros Cap in 1945. Fresh fish as well as frozen fish could now be transported rapidly to the railhead at Grimshaw and distributed to markets in eastern Canada and the United States of America. Since fresh fish commanded higher prices and required less capital investment than frozen fish, there was a rapid influx of fishermen and fish companies that made their headquarters at Hay River. Even though Hay River was situated many kilometers away from some of the more productive fishing grounds, it was the only point that allowed quick direct access to the lake.

While the commercial fisheries expanded rapidly, the transportation function developed slowly. Despite its situation at a potential transshipment point between the end of the Mackenzie Highway and the beginning of a Mackenzie River route, the cost of transportation, especially of bulk goods, remained cheaper by water transportation from Waterways, Alberta. Also, because of the lateness of break-up on Great Slave Lake, Hay River had no particular advantage over Waterways for early delivery of goods to northern settlements in the summer season. However, a combined truck and ferry operation provided Yellowknife with a fast, regular, and frequent service for passengers, perishables, and small freight. The late freeze-up of Great Slave Lake and the Upper Mackenzie River enabled Hay River to deliver freight to both Yellowknife and the Mackenzie River settlements long after the closure of the Athabasca River route.

During the winter season, Hay River because of its lakeside situation was a staging point for goods bound to Yellowknife along ice roads across Great Slave Lake by truck and tractor train. In the intervening periods of break-up and freeze-up, the northern location of Hay River made it best situated for the economic transfer of air cargo to Yellowknife and more northerly settlements.

With the construction of extensions to the Mackenzie Highway, it was possible to reach the head of the Mackenzie River at Mills Lake. From there, freight could be shipped north in spring several weeks ahead of Hay River. This road construction, therefore, siphoned off some of the freight that formerly passed through Hay River. In a similar manner, with the construction of a winter road to Yellowknife around the west end of Great Slave Lake and its eventual improvement into an all-weather highway in 1960, more overland freight was diverted away from Hay River. This improvement of road transportation weakened the situation advantage of Hay River's location at the junction of road and water routes. Not until the construction of the Great Slave Lake Railway in the early 1960s did Hay River take on the major role as transportation center for the Western Arctic.

As a result of the changing functions of Hay River, the site factors became more important in its physical development. During the fur trade and mission periods, the waterfront location for buildings was useful but not essential. Goods were transferred to and from boats only a few times each year. Commercial fisheries and water transportation industries required much more intensive use of the waterfront and contact with the river and lake. Not only did these industries require waterfront property, but they needed access to the Mackenzie Highway, the link to southern suppliers and markets. As these functions expanded and the population of Hay River increased, more land was needed for industrial, residential, commercial, and institutional uses. These different land uses were not compatible and required different sites.

With the construction of the airport on Vale Island in 1942 and the relocation of the terminus of the Mackenzie Highway to the northeast corner of Vale Island in 1948, the traditional site of Hay River on the east bank of the East Channel became isolated from the new transportation links to southern Canada. Vale Island became the site for the new expansion because of the access to the harbor, lake, and highway. However, there were several disadvantages in the island site. It was isolated from the mainland for a short period of time following spring break-up. The island was low lying and subject to floods during the spring break-up especially after the construction of the new highway. The high water table and pockets of permafrost prevented adequate drainage which made road construction difficult and hindered the installation of a suitable water and sewage system. These latter problems were of considerable concern because of the potential for pollution associated with the commercial fishing industry.

The initial waterfront lots for the new townsite on Vale Island surveyed in 1939 were located on slightly higher ground in the north east corner of Vale Island. Further lots were laid out in a grid pattern on lower ground, downstream of the initial survey in the latter half of the 1940s.

Because of the potential for pollution in this area and the lack of adequate storage for fishing equipment, a separate community for the commercial fishing industry was established at the north west corner of Vale Island on the east bank of the West Channel. Here, the river bank offered some protection from flooding and the West Channel provided access to the lake. However, the West Channel community was separated from the amenities of the new townsite by a long narrow road which followed the northern edge of Vale Island.

The settlement of Hay River was thus divided into three distinct communities each engaged in different activities and occupying separate sites - the traditional Indian Village located on the east bank of the East Channel engaged in hunting and trapping, the commercial fishing community at the mouth of the West Channel, and the transportation and service center in the new townsite in the north east corner of Vale Island. Of these three communities, the new townsite was least adapted to its site and the severe flooding in 1963 led to the creation of a new town core on the mainland south of Vale Island.

Site and situation have remained persistent elements shaping the establishment and growth of Hay River throughout the period 1800-1950. The land on which a settlement is built must be assessed in terms of its usefulness and the postion of the settlement has to be evaluated in terms of its surroundings, no place is isolated or stands alone. Detailed consideration of the site and situation factors was made by those individuals, groups, and institutions involved in the selection of the location of Hay River for the specific functions that were established there during the stages of development.

Establishment of functions at Hay River followed periods of assessment of the value of the site and situation; but specific events often stimulated the actual change, for example the need for relief supplies in Yellowknife and the opening of the overland route through Hay River into the District of Mackenzie. One function sometimes attracted a similar function or compatible function. The Hudson's Bay Company attempted to settle in the Hay River Valley in order to compete with the North West Company. The Anglican Church attempted to settle at the mouth of the Hay River in order to gain security and support from the Hudson's Bay Company post built there in 1868.

The significance of the situation and site factors varied according to the particular function established and also the sophistication of the transportation technology available at that time. But in turn, the type of transportation technology used often influenced the functions that could develop and again the type of transportation technology used was related to situation and site factors of the settlement. Each element site, situation, function, and technology are intricately interdependent and difficult to isolate but all are essential for the establishment and development of settlements.

The functions of Hay River can be categorized into three groups - resource extraction, education, and transportation services. These three functional organizations required different situation conditions because of the structure of their operation. The resource extraction industries, fur trapping and fishing, had to be situated in close proximity to the natural resource. Thus, both the initial Hay River post within the rich fur resources of the middle Hay River Valley, and the West Channel fishing village at the shore of Great Slave Lake were well situated to carry out their functions. Failure to take into consideration this critical need to be close to the natural resource led to the failure of the Hudson's Bay post established in 1868 at the mouth of the Hay River.

These resource extraction industries also needed to be accessible to their markets and source of supplies in southern Canada, the United States, and overseas. The degree of accessibility differed according to the product extracted. The fur industry required only a limited access to market for a relatively small quantity of goods following the main winter trapping season. Thus, the fur trade could operate successfully in settlements with relatively poor accessibility and primitive transport equipment. The fact that the initial Hay River post was situated away from the main transportation routes was not a major factor limiting its development. The use of the Mackenzie River system and steamboat transportation in the early twentieth century provided sufficient access to southern markets for furs traded at Hay River.

The commerical fishing industry required fast, regular, and frequent access to distant markets for a large, bulky, perishable commodity. This accessibility was crucial for the rapid development of the commercial fishery of Great Slave Lake. The situation of Hay River, not only on the shore of

Great Slave Lake but at the northern terminus of the Mackenzie Highway, was essential for the growth of the fresh fish industry and the increased profitability of the frozen fish industry.

The situation factors with respect to the educational function of Hay River was not as restrictive when compared with those of resource extraction. The educational function did not have to take place in close proximity to the students it served but at some location suitable for the optimum operation of the institution, that is, a location where local resources could provide adequate food supplies and where transportation routes could efficiently assemble students, staff, and additional supplies. The situation of Hay River on the Mackenzie River system and the steamboat technology available at the time made it a suitable location for the mission school but other places were also suitably located. However, Hay River was chosen because at its site existed the potential for the production of adequate food supplies, lack of competition, and a local population interested in the Anglican faith. The site advantages were more significant than the situation factors at this time. But as transportation technology, Anglican Church objectives, and Government policy changed; the situation factor of accessibility to the consumer, that is, the young Anglican student, became more important. Hay River, by the 1930s, was poorly situated with respect to the large concentration of students in the Mackenzie River Delta and could not effectively continue its educational function.

The situation of Hay River was critical in its growth as a transportation center. A transportation center has to be accessible to both the settlements it serves and the sources of supplies. Accessibility depends not only on distance but the nature of routes followed, the type of transportation technology used. The nature of the routes used likewise is influenced by the technology and seasonal changes caused by climatic factors. The essential factor for the growth of Hay River as a transportation center was its situation at the junction of the direct south-north overland route along the Hay River Valley and Great Slave Lake which not only gave access to Yellowknife, but the Mackenzie Valley settlements. The limitations of this route were the expense of land transportation and the seasonal changes of water transportation caused by ice conditions. Expansion of roads within the District of Mackenzie weakened this situational advantage.

The site element was generally less important than situation in choosing to locate a particular function at Hay River. Only the establishment of the Diocesan School at Hay River was more strongly influenced by the site of Hay River than its situation. Although the site element was generally less important, certain specific site factors have played a prominent role in the development of Hay River. The harbor at the mouth of the East Channel was always important from the earliest days of canoe travel to the modern use of tugs and barges because it provided shelter from stormy weather along the south shore of Great Slave Lake. The local natural resources, fish, timber, meadows, favorable climate, and fertile soils were significant factors during the fur trade because of the limited accessibility of Hay River and the need to be self sufficient. These local resources became critical factors in providing for the needs of the Diocesan School and its large population because of the insecurity and expense of acquiring supplies from southern Canada by way of the Mackenzie River system and the slow steamboat transportation. With the improvement of transportation and the corresponding increase in accessibility to supplies, the need for local resources declined. A high and dry site was important for a firm building foundation protected from river flooding. The high east bank of the East Channel provided the safest and firmest site for small buildings required by the Hudson's Bay Company in 1868 and even the larger buildings required by the Diocesan School. This east bank site gave adequate access to the river and lake. With the physical growth of Hay River associated with the expansion of both commercial fishing and transportation services the most important factor is accessibility not only to the harbor and lake but to the Mackenzie Highway. This has led to the expansion along the waterfront of Vale Island where site factors - poor drainage, and periodic flooding are major disadvantages.

From the time of establishment of Hay River as a few trading posts, to its role as a missionary educational headquarters for the Diocese of Mackenzie River, and more recent expansion into a service center for the commercial fisheries of Great

Slave Lake and transportation center for northern settlements, site and situation have been important factors influencing this development. Of these two factors situation has been more important. The situation of Hay River on the Mackenzie River system and the north-south overland route along the Hay River Valley has been the critical fact influencing the access to natural resources, southern markets and supplies, and the settlements of the District of Mackenzie. Although less critical, specific aspects of the site have been important. Favorable climate, rich soils and fish resources enabled some degree of self sufficiency during the early stages of limited accessibility. The sheltered harbor was always important but has increased in significance along with the neighbouring waterfront property as Hay River grew in size and took on the more complex functions as a commercial fishing and transportation center.

This dissertation has shown that the concepts of site and situation are not outmoded and have a valid role in understanding the geography of settlements and particularly the explanation of their location. However, the value of the concepts is limited unless studied within the historical context of the growth of settlements. The study of site and situation factors in a modern day settlement could lead to the conclusions that there is little or no reason why it is located where it is. Every decision, each event, and every change lays a foundation for further development. Only within this context of change can the fullest understanding of location develop. This study has shown that even within small settlements the concepts of site, situation, function,and transportation are intricately interconnected and difficult to isolate.

The historical geography method of temporal cross sectional studies although considered orthodox and unexceptional best suited this study of site and situation because of the fact that the concept of situation demands the examination of the relative position of a settlement with respect to its wider surroundings. But the change in the significane of site and situation with respect to change of function and transportation was best treated through the vertical theme approach.

The dissertation has enhanced the field of settlement geography of the Northwest Territories by providing a detailed examination of one of the major northern communities and its changing position within the region. The work has shown that there are ample resource materials on which to provide detail studies of the historical geography of northern settlements.

Possible areas of research which stem from this present study include a comparative study of the site and situation of small settlements, such as Fort Good Hope, which, although having a long history have shown little functional change. The study of the last thirty years of the growth of Hay River as the main transportation center for the District of Mackenzie could be appropriately contrasted with the decline in Waterways as the former terminus of the Mackenzie River transportation system. The study of "planned" settlements such as Inuvik and Edzo could provide a basis for the analysis of the significance of site and situation in the present day context.

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